Appendix 5:
Food Categories Modeled Distributions and Related Information

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Food Categories Modeled Distributions and Related Information

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Appendix 5: Food Categories Modeled Distributions and Related Information

1. Smoked Seafood Food Category

Consumption

Table A5.1.1. Foods Included in Consumption Data Set

26100190	Fish, smoked
26119190	Herring, smoked, kippered
26137190	Salmon, smoked
26151190	Trout, smoked
26315190	Oysters, smoked
Source Survey:	**CSFII**

Figure A5.1.1. Cumulative Distribution for the Serving Size

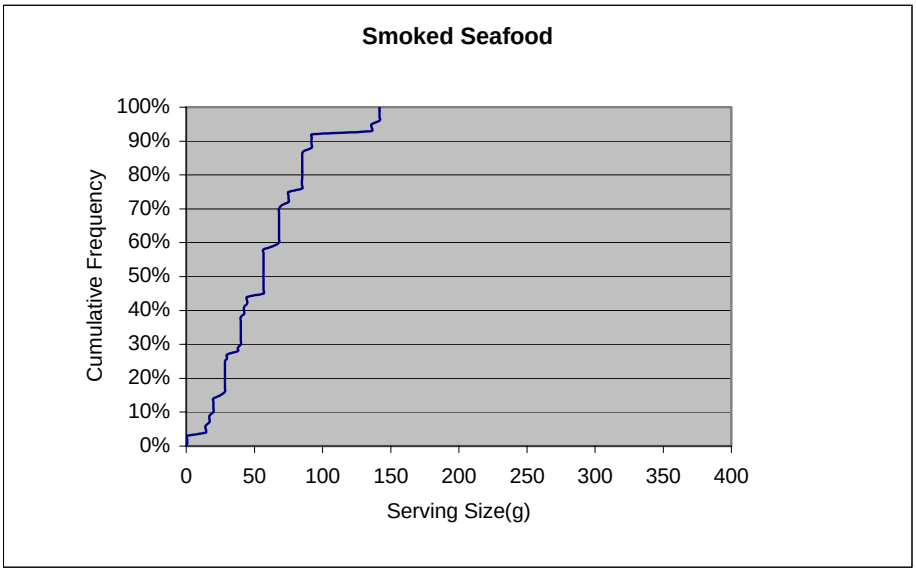

Table A5.1.2. Frequency Distribution for Amount Consumed per Serving

Percentiles (grams per serving)			
50th	**75th**	**95th**	**99th**
57	75	136	142

Contamination at Retail

Table A5.1.3. Foods Included in Contamination Level Data Set (See appendix 7 for corresponding references)

Foods
Coalfish, smoked
Cod, smoked
Cold vacuum-packed, smoked
Fin fish, cold smoked
Fin fish, hot smoked
Finfish, hot/cold smoked
Fish, cold smoked
Fish, hot smoked
Halibut, cold, smoked
Halibut, smoked
Herring, smoked
Mussels, smoked
Mussels-frozen, smoked
Oysters, smoked
Salmon fresh, smoked
Salmon, cold smoked
Salmon, smoked
Seafood, smoked
Shad, smoked
Snapper, smoked
Sockeye, smoked
Sturgeon, smoked
Trout, smoked
Tuna, smoked

Post Retail Growth

Table A5.1.4. Foods Included in Post Retail Growth Data Set (See appendix 8 for corresponding references)

Foods
Cod, cold smoked
Salmon, cold smoked
Salmon, smoked
Trout, hot smoked

Table A5.1.5. Consumer Storage Times Used in this Risk Assessment (days)

Minimum	Mode	Maximum
0.5	3 to 5	15 to 30

Figure A5.1.2. Cumulative Distribution for the Exponential Reference Growth Rate (EGR) at 5 °C

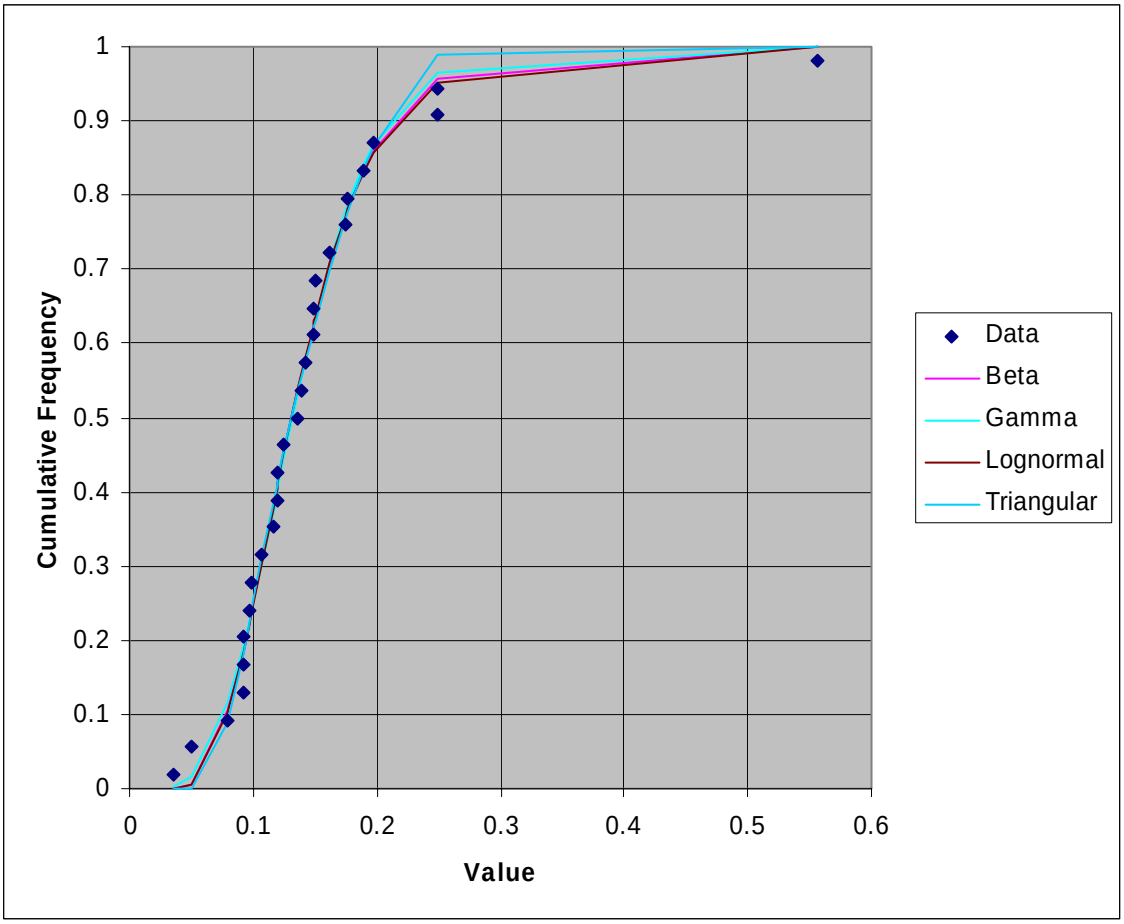

Table A5.1.6. Models Used to Characterize the Cumulative Distribution for Exponential Growth Rates

Model	Parameter 1	Parameter 2	Parameter 3	Parameter 4	RSQ	Probability
Lognormal	-2.03325	0.389008			0.018	0.40
Gamma	6.91	0.020056			0.020	0.31
Beta	3.742776	10550.12	0.03465	298.2289	0.019	0.16
Triangular	0.0519	0.0930	0.269635		0.026	0.13

See Appendix 6: Software for a description of the common names used for the parameters for these statistical distributions (models).

Table A5.1.7. Mean, Standard Deviation and Number of Samples (N) for Exponential Growth Rate (EGR) at 5 °C

Mean (log_{10} cfu/g/day)	Std. Dev.	N
0.150	0.96	27

Table A5.1.8. Maximum Growth at Various Temperatures

Temperature (°C)	<5	5-7	>7
Maximum Growth (log_{10} cfu/g)	5	6.5	8

2. Raw Seafood Food Category

Consumption

Table A5.2.1. Foods Included in Consumption Data Set

Food Code	Food
26115000	Flounder, raw
26131100	Pompano, raw
26153100	Tuna, fresh, raw
26211100	Roe, sturgeon
26213100	Squid, raw
26315100	Oysters, raw
58151130	Sushi, with vegetables and fish
Source Survey:	**NHANES III**

Figure A5.2.1. Cumulative Distribution for the Serving Size

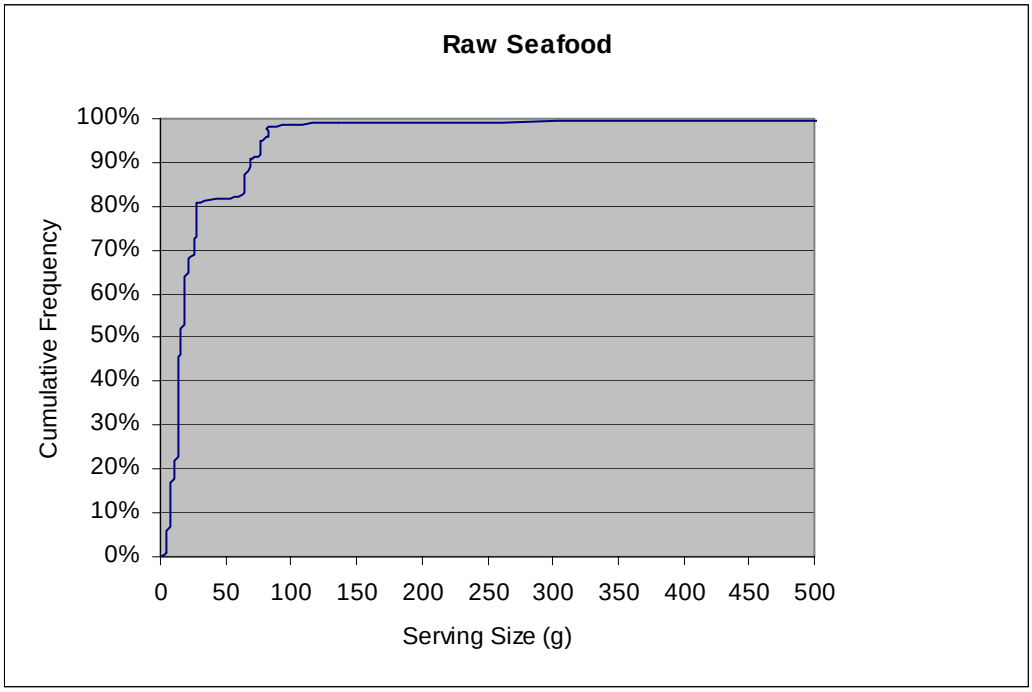

Table A5.2.2. Frequency Distribution for Amount Consumed per Serving

Percentiles (grams per serving)			
50th	75th	95th	99th
16	28	77	136

Contamination at Retail

Table A5.2.3. Foods Included in Contamination Level Data Set (See appendix 7 for corresponding references)

Foods
Anchovy
Blue crab meat
Bombay Duck-fish
Butterfish
Catfish, fresh[a]
Clam, fresh
Clam, raw
Coalfish fillet
Cod
Cod Fillet
Coquina, fresh
Crab[a]
Crabmeat/scallops[a]
Crustacean/shellfish
Cut raw salmon
Doma-local fish
Fin fish & non-fin fish
Fin fish, fresh
Fin fish, frozen
Fin fish, minced
Fin fish/shellfish
Finfish, aquaculture
Finfish, raw
Finfish, tropical
Fish
Fish & fish parts
Fish & fish products
Fish & non-fish, local frozen and refrigerated
Fish cakes, fingers[a]
Fish, fresh
Fish, frozen
Fish, other
Fish, raw
Fish, salt, sushi
Fish, sushi
Frozen herring
Golden anchovy
Hake, raw
Halibut
Indian salmon
Lobster tail, frozen[a]
Mackerel
Mollusks, bivalve, mussels
Mussels, depurated
Mussels, fresh

Mussels, predepuration
Non-oyster shellfish
Ocean cats fillets
Other
Oysters, fresh
Oysters, frozen
Oysters, live
Oysters, raw
Oysters, uncooked
Perch
Plaice/raw food
Pom fret
Prawn, raw, 'sushi'
Rainbow trout
Raw fish & shrimp
Raw halibut
Raw octopus, squid, trepang
Raw salmon (fillets) surfaces
Raw salmon (whole) surfaces
Raw salmon surfaces
Raw seafood
Raw surimi
Ready-to-eat seafood
Rock fish
Roe
Sable
Salmon
Salmon, raw
Salmon/raw seafood
Sardine/raw seafood
Scallops, raw[a]
Scallops, frozen[a]
Shellfish/raw
Shell fish
Shellfish, raw
Shellfish, tropical
Shrimp[a]
Shrimp raw[a]
Shrimp, frozen[a]
Shrimp, live
Shrimp, raw
Shrimp, raw, fresh
Shrimp, raw, frozen[a]
Shrimp, retail
Shrimp, raw/process[a]
Shrimp-imported frozen
Snapper
Sole
Sole, raw
Squid, langostinos, frozen
Surimi and minced seafood

Squirmy, crab[a]
Surimi, etc
Surimi, frozen[a]
Sushi-with and without rice
Thread fin
Trout, fresh
Trout/raw seafood
Tuna
Tuna, minced, sushi
Turbot fillets

[a] These foods are not generally eaten raw, but contamination data for these foods are likely to reflect contamination levels in seafoods that are consumed raw.

Post Retail Growth

Table A5.2.4. Foods Included in Post Retail Growth Data Set (See appendix 8 for corresponding references)

Foods
Catfish, raw
Crab, raw
Fin fish, raw
Oysters, raw
Shrimp, raw
Surimi
Trout, raw
Whitefish, raw

Table A5.2.5. Consumer Storage Times Used in this Risk Assessment (days)

Minimum	Mode	Maximum
0.5	1 to 2	10 to 20

Figure A5.2.2. Cumulative Distribution for the Reference Exponential Growth Rates (EGR) at 5 °C

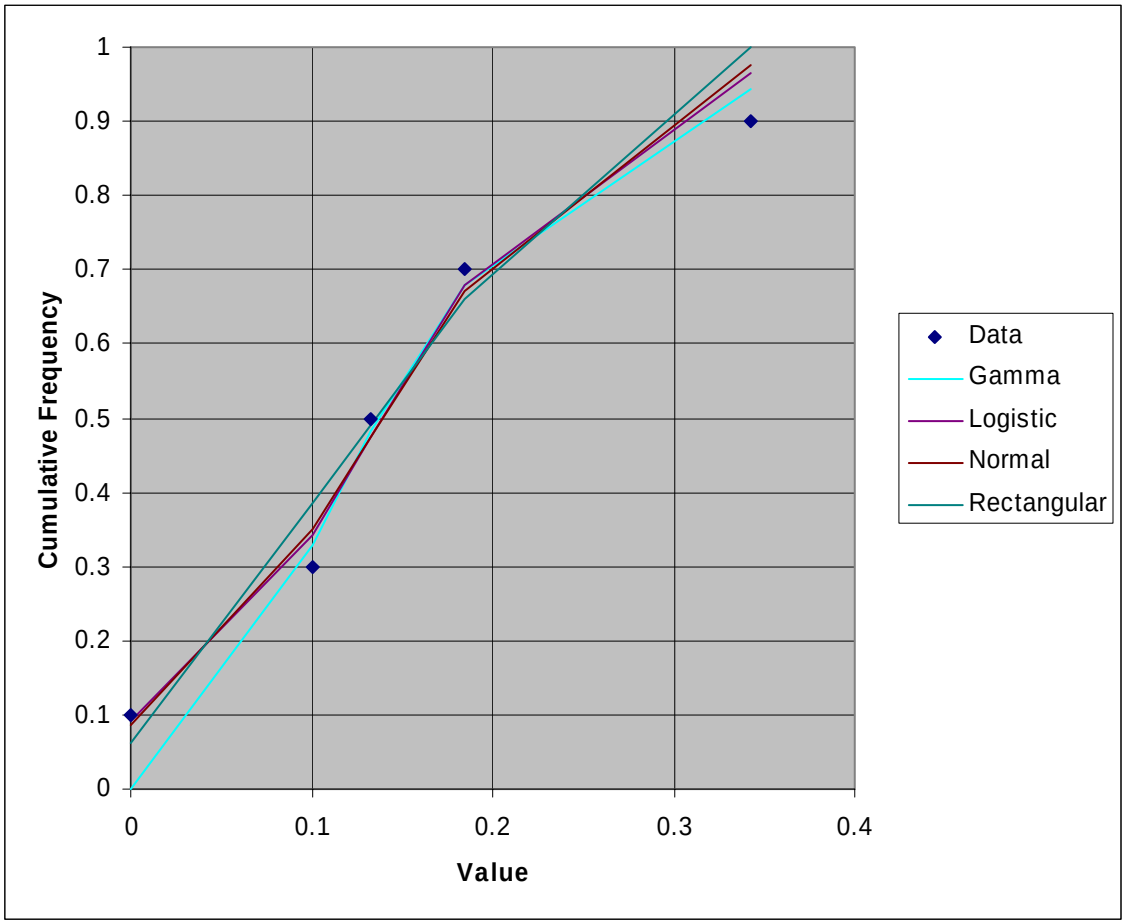

Table A5.2.6. Models Used to Characterize the Cumulative Distribution for Exponential Growth Rates

Model	Parameter 1	Parameter 2	RSQ	Probability
Logistic	.139	.0606	0.007	0.37
Normal	0.139624	0.102976	0.010	0.26
Rectangular	-0.01953	0.290551	0.020	0.22
Gamma	2.44	0.064856	0.013	0.16

See Appendix 6: Software for a description of the common names used for the parameters for these statistical distributions (models).

Table A5.2.7. Mean, Standard Deviation and Number of Samples (N) for Exponential Growth Rate (EGR) at 5°C

Mean (log_{10} cfu/g/day)	Std. Dev.	N
0.152	0.126	5

Table A5.2.8. Maximum Growth at Various Temperatures

Temperature (°C)	<5	5-7	>7
Maximum Growth ($\log_{10}$ cfu/g)	5	6.5	8

3. Preserved Fish Food Category

Consumption

Table A5.3.1. Foods Included in Consumption Data Set

Food Code	Food
26100170	Fish, not specified as to type, dried
26109180	Cod, dried, salted, salt removed in water
26119180	Herring, pickled
27151030	Marinated fish (Ceviche)
Source Survey:	**NHANES III**

Figure A5.3.1. Cumulative Distribution for the the Serving Size

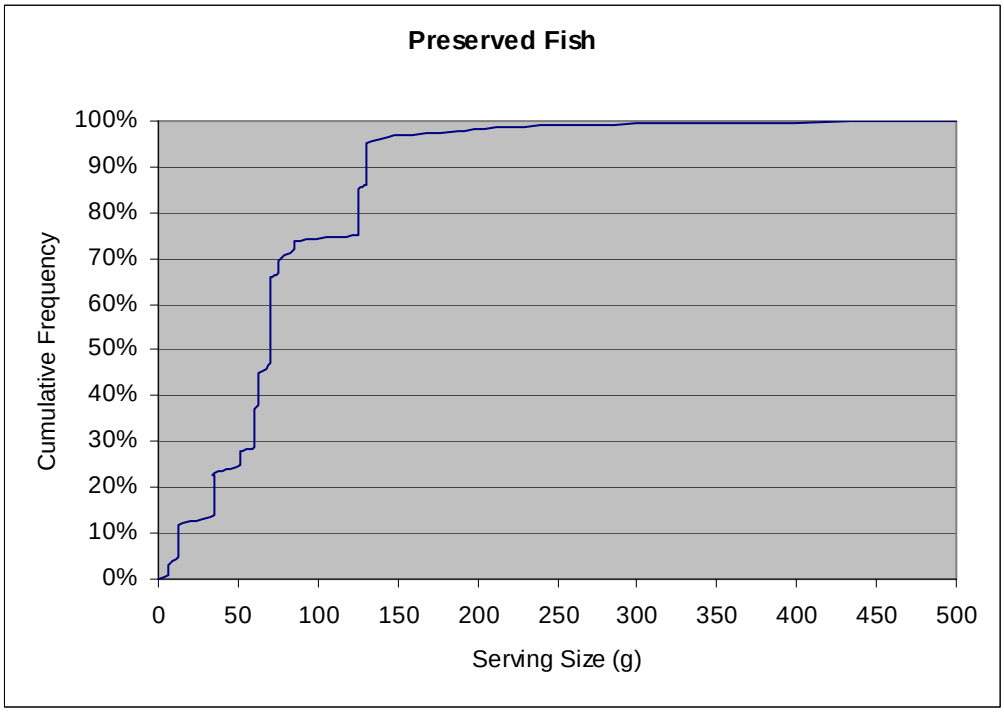

Table A5.3.2 Frequency Distribution of Amount Consumed per Serving

Percentile (grams per serving)			
50th	75th	95th	99th
70	125	130	250

Contamination at Retail

Table A5.3.3. Foods Included in Contamination Level Data Set (See appendix 7 for corresponding references)

Foods
Anchovy, dried
Brined shrimp
Ceviche
Cooked fish & fish products
Dried fish 'Bombay Duck'
Dried shrimp, squid & mussels
Dried squid & mussels
Dried squid, salmon, shishamo smelt
Fermented seafood
Fermented sushi flatfish
Fermented sushi sandfish
Fin fish, pickled
Fish, dried, salted
Fish, gravad
Fish, preserved
Fish, processed
Gravad
Haddock, dried
Mackerel, dried
Salted clams
Salted salmon
Seasoned anchovies
Shrimp, dried
Trout, gravad

Post Retail Growth

Table A5.3.4. Foods Included in Post Retail Growth Data Set

Not applicable; no growth.

Table A5.3.5. Consumer Storage Times Used in this Risk Assessment (days)

Not applicable; no growth

Figure A5.3.2. Cumulative Distribution for the Reference Exponential Growth Rates (EGR) at 5 °C

Not applicable; no growth

Table A5.3.6. Models Used to Characterize the Cumulative Distribution for Exponential Growth Rates

Not applicable; no growth

Table A5.3.7. Mean, Standard Deviation and Number of Samples (N) for Exponential Growth Rate (EGR) at 5 °C

Not applicable; no growth

Table A5.3.8. Maximum Growth at Various Temperatures

Maximum growth = 10^8 cfu/g

4. Cooked Ready-to-Eat Crustaceans Food Category

Consumption

Table A5.4.1. Foods Included in Consumption Data Set

Food Code	Food
26305160	Crab, hard shell, steamed
26319130	Shrimp, steamed or boiled
27150110	Shrimp cocktail (shrimp with cocktail sauce)

Source Survey: **CSFII**

Figure A5.4.1. Cumulative Distribution for the Serving Size

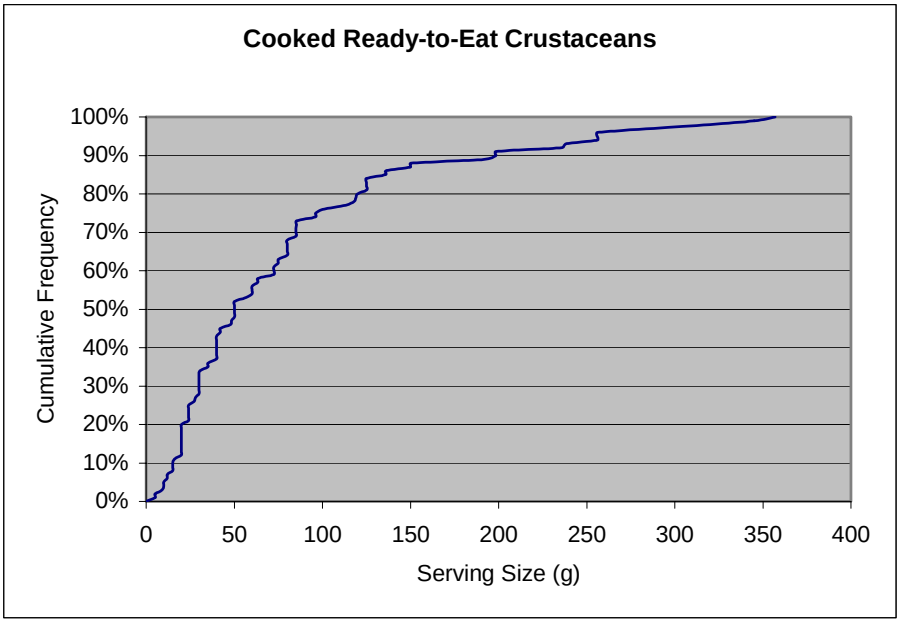

Table A5.4.2. Frequency Distribution of Amount Consumed per Serving

Percentile (grams per serving)			
50th	75th	95th	99th
50	96	256	345

Contamination at Retail

Table A5.4.3. Foods Included in Contamination Level Data Set (See appendix 7 for corresponding references)

Foods
Crab
Crab, cooked
Imitation crab
Mussels, shelled cooked
Seafood, boiled
Shellfish, cooked
Shrimp, cooked
Shrimp, cooked, frozen
Shrimp, cooked/processed
Shrimp, wholesale

Post Retail Growth

Table A5.4.4. Foods Included in Post Retail Growth Data Set (See appendix 8 for corresponding references)

Food
Crab, cooked
Crabmeat, pasteurized
Fish, smoked
Lobster, cooked
Shrimp, cooked

Table A5.4.5. Consumer Storage Times Used in this Risk Assessment (days)

Minimum	Mode	Maximum
0.5	1 to 2	10 to 20

Figure A5.4.2. Cumulative Distribution for the Exponential Reference Growth Rate (EGR) at 5 °C

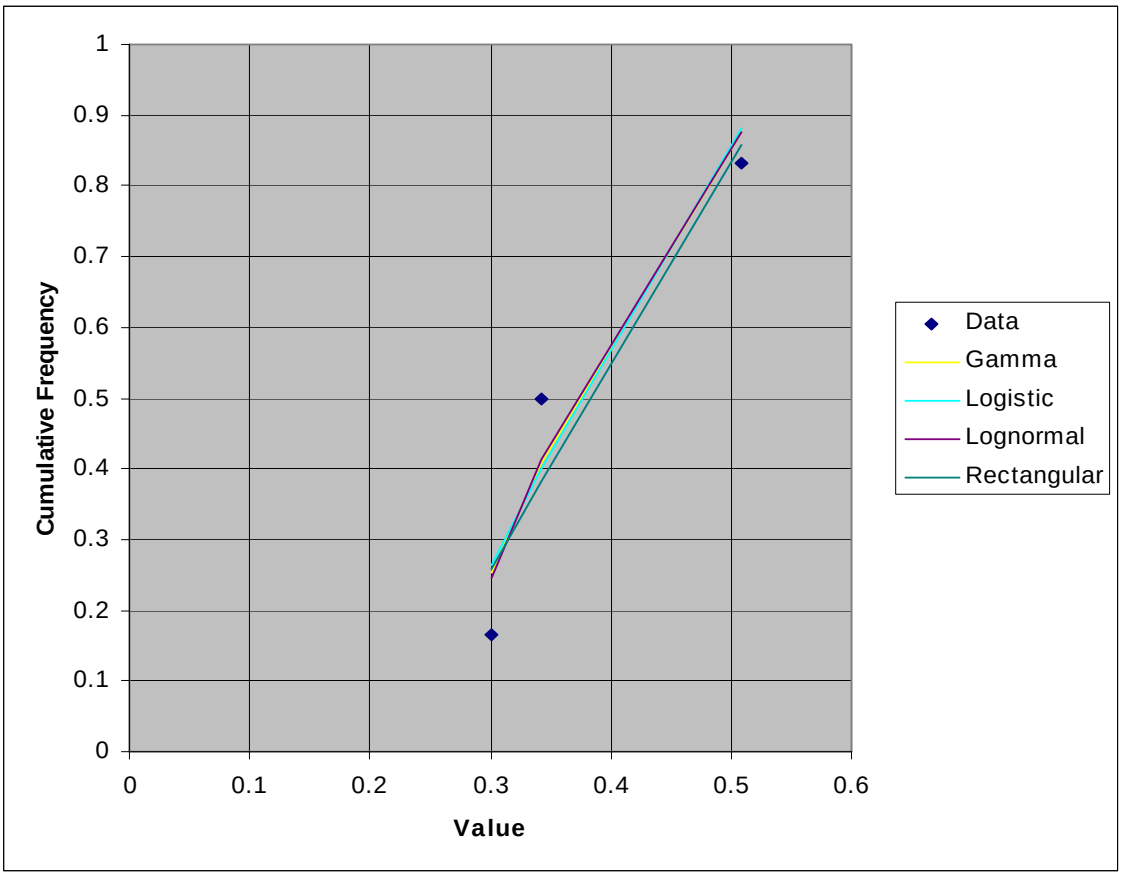

Table A5.4.6. Models Used to Characterize the Cumulative Distribution for Exponential Growth Rates

Model	Parameter 1	Parameter 2	RSQ	Probability
Rectangular	0.209777	0.557556	0.023	0.38
Lognormal	-1.00726	0.286849	0.016	0.29
Gamma	11.7	0.032484	0.018	0.21
Logistic	.371	.0689	0.021	0.12

See Appendix 6: Software for a description of the common names used for the parameters for these statistical distributions (models).

Table A5.4.7. Mean, Standard Deviation and Number of Samples (N) for Exponential Growth Rate (EGR) at 5 °C

Mean (log_{10} cfu/g/day)	Std. Dev.	N
0.384	0.110	3

Table A5.4.8. Maximum Growth at Various Temperatures

Temperature (°C)	<5	5-7	>7
Maximum Growth (log_{10} cfu/g)	5	6.5	8

5. Vegetables Food Category

Consumption

Table A5.5.1. Foods Included in Consumption Data Set

Food Code	Food
71905000	Ripe plantain, raw
72101100	Beet greens, raw
72113100	Dandelion greens, raw
72116000	Endive, chicory, escarole, or romaine lettuce, raw
72116140	Caesar salad (with romaine)
72124100	Radicchio, raw
72125100	Spinach, raw
72130100	Watercress, raw
72201100	Broccoli, raw
73101010	Carrots, raw
74101000	Tomatoes, raw
74102000	Tomatoes, green, raw
74402110	Salsa, red, uncooked
75100250	Raw vegetable, not further specified
75100300	Sprouts, not further specified
75100500	Alfalfa sprouts, raw
75100750	Artichoke, Jerusalem, raw
75100800	Asparagus, raw
75101000	Bean sprouts, raw (soybean or mung)
75101800	Beans, string, green, raw
75102500	Beets, raw
75102750	Brussels sprouts, raw
75103000	Cabbage, green, raw
75104000	Cabbage, Chinese, raw
75105000	Cabbage, red, raw
75105500	Cactus, raw
75107000	Cauliflower, raw
75109000	Celery, raw
75109500	Chives, raw
75109550	Cilantro, raw
75109600	Corn, raw
75111000	Cucumber, raw
75111200	Eggplant, raw
75111500	Garlic, raw
75111800	Jicama, raw
75112500	Leek, raw
75113000	Lettuce, raw
75113060	Lettuce, Boston, raw
75113080	Lettuce, arugula, raw

75114000	Mixed salad greens, raw
75115000	Mushrooms, raw
75117010	Onions, young green, raw
75117020	Onions, mature, raw
75119000	Parsley, raw
75120000	Peas, green, raw
75121000	Pepper, hot chili, raw
75121400	Pepper, poblano, raw
75121500	Pepper, Serrano, raw
75122000	Pepper, raw, not further specified
75122100	Pepper, sweet, green, raw
75122200	Pepper, sweet, red, raw
75124000	Pepper, banana, raw
75125000	Radish, raw
75127500	Seaweed, raw
75127750	Snowpeas (pea pod), raw
75128000	Squash, summer, yellow, raw
75128010	Squash, summer, green, raw
75129000	Turnip, raw
75143000	Lettuce, salad with assorted vegetables including tomatoes and/or carrots, no dressing
75143050	Lettuce, salad with assorted vegetables excluding tomatoes and carrots, no dressing
75143100	Lettuce, salad with avocado, tomato, and/or carrots, with or without other vegetables, no dressing
75143200	Lettuce, salad with cheese, tomato and/or carrots, with or without other vegetables, no dressing
75143300	Lettuce, salad with egg, tomato, and/or carrots, with or without other vegetables, no dressing
75143350	Lettuce salad with egg, cheese, tomato, and/or carrots, with or without other vegetables, no dressing
75147000	Spinach salad, no dressing

Source Survey: **CSFII**

Figure A5.5.1. Cumulative Distribution for the Serving Size

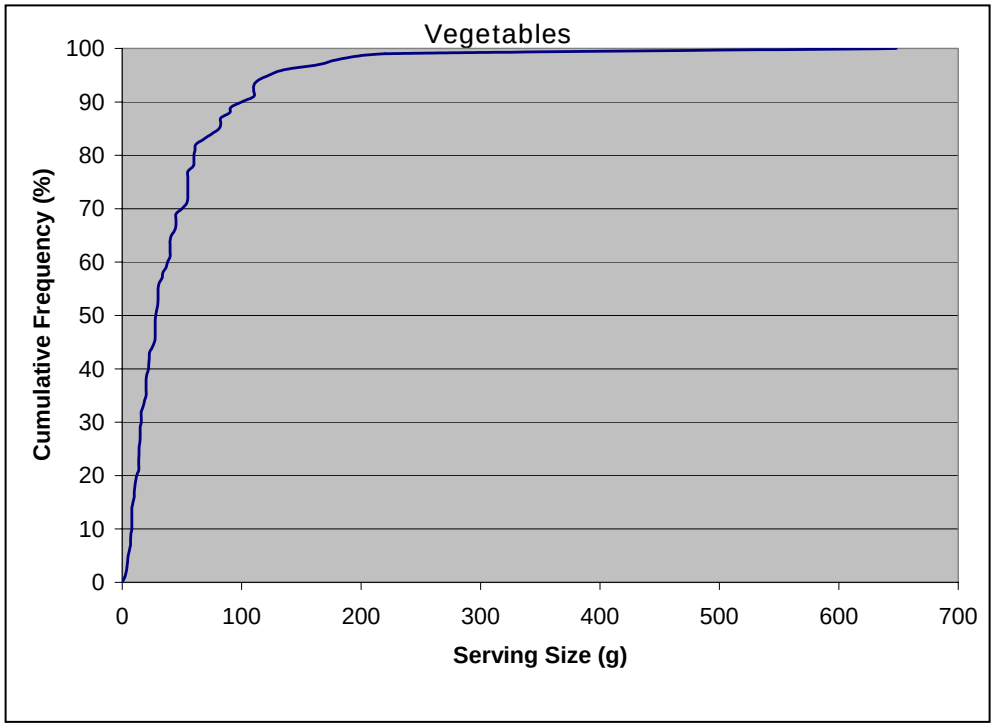

Table A5.5.2. Frequency Distribution of Amount Consumed per Serving

Percentile (grams per serving)			
50th	**75th**	**95th**	**99th**
28	55	123	220

Contamination at Retail

Table A5.5.3. Foods Included in Contamination Level Data Set (See appendix 7 for corresponding references)

Foods
Bagged precut leafy salad
Beet root
Broccoli
Cabbage
Cabbage salad
Carrot
Celery
Cilantro
Coleslaw mix
Coriander
Cucumber
Fennel
Fresh cut vegetables
Green beans
Green peppers

Individual salad ingredients (bean sprouts, cabbage, carrot, celery, cress, cucumber, lettuce, mushroom, peppers, radish, spring onions, tomato, vegetables, watercress)
Jalapeno
Kelp
Kidney, Mung Bean
Kim chee
Laurel
Legumes
Lettuce
Math leaves-veg
Math roots
Mixed vegetable salad
Mushroom
Olive
Onion
Parsley
Pea
Potato
Prepacked mixed salads
Processed vegetables and salads
Radish
Radishes
Raw vegetables
Ready-to-eat salads
Salads, vegetable
Spinach
Spinach washed w/ sodium hypochlorite
Sprouts
Thyme
Tomato
Unprocessed vegetables
Vegetables, fresh
Watercress
Winter sweet
Yam

Post Retail Growth

Table A5.5.4. Foods Included in Post Retail Growth Data Set (See appendix 8 for corresponding references)

Foods
Asparagus
Asparagus
Bean sprout
Broccoli
Cabbage, raw, shreds
Carrots, whole and shredded
Cauliflower
Endive, broad leaved
Endive, broad leaved
Endive, curly-leaved
Lettuce, butterhead
Lettuce, lamb's
Lettuce, shredded
Lettuce, whole
Lettuce, whole, ready to serve
Lettuce, whole, ready to serve, open
Lettuce, whole, ready to serve, sealed
Rutabaga
Salads, mixed
Tomatoes

Table A5.5.5. Consumer Storage Times Used in this Risk Assessment (days)

Minimum	Mode	Maximum
0.5	3 to 4	8 to 12

Figure A5.5.2. Cumulative Distribution for the Exponential Growth Rate (EGR) at 5 °C

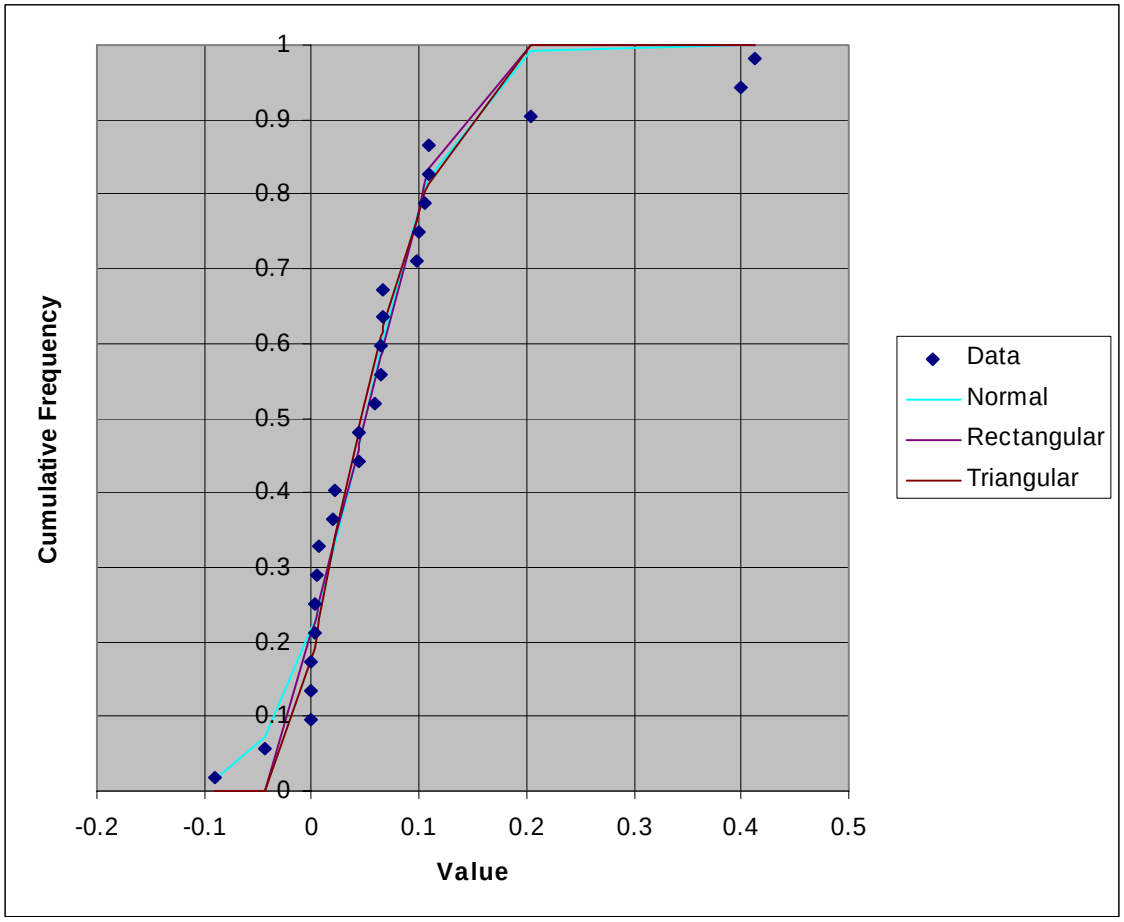

Table A5.5.6. Models Used to Characterize the Cumulative Distribution for Exponential Growth Rates

Model	Parameter 1	Parameter 2	Parameter 3	RSQ	Probability
Rectangular	-0.03737	0.138017		0.069	0.60
Normal	0.049855	0.064067		0.067	0.20
Triangular	1.00E-04	-4.40E-02	0.207461	0.068	0.19

See Appendix 6: Software for a description of the common names used for the parameters for these statistical distributions (models).

Table A5.5.7. Mean, Standard Deviation and Number of Samples (N) for Exponential Growth Rate (EGR) at 5 °C

Mean (log_{10} cfu/g/day)	Std. Dev.	N
0.072	0.114	26

Table A5.5.8. Maximum Growth at Various Temperatures

Temperature (°C)	<5	5-7	>7
Maximum Growth (log_{10} cfu/g)	5	6.5	8

6. Fruits Food Category

Consumption

Table A5.6.1. Foods Included in Consumption Data Set

Food Code	Food
61101010	Grapefruit, raw
61119010	Orange, raw
61125000	Tangelo, raw
61125010	Tangerine, raw
62101000	Fruit, dried, not further specified (assume uncooked)
62101050	Fruit mixture, dried (mixture includes three or more of the following: apples, apricots, dates, papaya, peaches, pears)
62101100	Apple, dried, uncooked
62101300	Apple chips
62104100	Apricot, dried, uncooked
62107200	Banana chips
62110100	Date
62113100	Fig, dried, uncooked
62114050	Mango, dried
62114110	Papaya, dried
62120100	Pineapple, dried
62121100	Plum, rock salt, dried
62122100	Prune, dried, uncooked
62125100	Raisins
63100100	Fruit, not specified as to type
63101000	Apple, raw
63101150	Applesauce with other fruits
63101420	Apple, pickled
63103010	Apricot, raw
63105010	Avocado, raw
63107010	Banana, raw
63107080	Banana, red, ripe (guineo morado)
63109010	Cantaloup (muskmelon), raw
63109700	Carambola (starfruit), raw
63110010	Cassaba melon, raw
63113010	Cherries, sour, red, raw
63115010	Cherries, sweet, raw (Queen Anne, Bing)
63115200	Cherries, frozen
63119010	Fig, raw
63123010	Grapes, European type, adherent skin, raw
63123020	Grapes, American type, slip skin, raw
63125010	Guava, raw
63126500	Kiwi fruit, raw

63127010	Honeydew melon, raw
63127610	Honeydew, frozen (balls)
63129010	Mango, raw
63129020	Mango, pickled
63131010	Nectarine, raw
63133010	Papaya, raw
63134010	Passion fruit, raw
63135010	Peach, raw
63135620	Peach, frozen, unsweetened
63135630	Peach, frozen, with sugar
63137010	Pear, raw
63137050	Pear, Japanese, raw
63139010	Persimmon, raw
63141010	Pineapple, raw
63143010	Plum, raw
63145010	Pomegranate, raw
63149010	Watermelon, raw
63201010	Blackberries, raw
63201600	Blackberries, frozen
63203010	Blueberries, raw
63203600	Blueberries, frozen, unsweetened
63205010	Boysenberries, raw
63219020	Raspberries, red, raw
63219610	Raspberries, frozen, unsweetened
63219620	Raspberries, frozen, with sugar
63223020	Strawberries, raw
63223030	Strawberries, raw, with sugar
63223610	Strawberries, frozen, unsweetened
63223620	Strawberries, frozen, with sugar
63311000	Fruit cocktail or mix (excluding citrus fruits), raw
63311050	Fruit cocktail or mix (including citrus fruits), raw
63311080	Fruit cocktail or mix, frozen
63320100	Fruit salad, Puerto Rican style (Mixture includes bananas, papayas, oranges, grapefruit, etc.) (Ensalada de frutas tropicale)

Source Survey: **CSFII**

Figure A5.6.1. Cumulative Distribution for the Serving Size

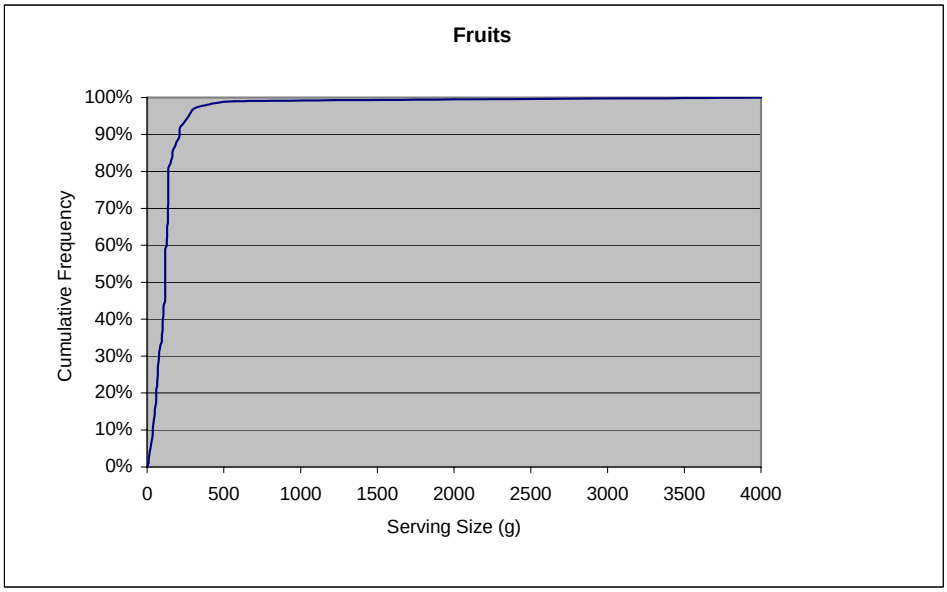

Table A5.6.2. Frequency Distribution of Amount Consumed per Serving

Percentiles (grams per serving)			
50th	75th	95th	99th
118	138	272	570

Contamination at Retail

Table A5.6.3. Foods Included in Contamination Level Data Set (See appendix 7 for corresponding references)

Foods
Apples
Blueberries
Cantaloupe
Fruit products
Fruit salad
Fruit, fresh
Fruit, product
Fruit-dried
Fruit-various
Melons
Pears
Pineapples
Watermelons

Post Retail Growth

Table A5.6.4. Foods Included in Post Retail Growth Data Set (See appendix 8 for corresponding references)

Foods
Apple slices (fresh cut)
Orange, serum (juice)

Table A5.6.5. Consumer Storage Times Used in this Risk Assessment (days)

Minimum	Mode	Maximum
0.5	3 to 4	8 to 12

Figure A5.6.2. Cumulative Distribution for the Exponential Growth Rate (EGR) at 5 °C

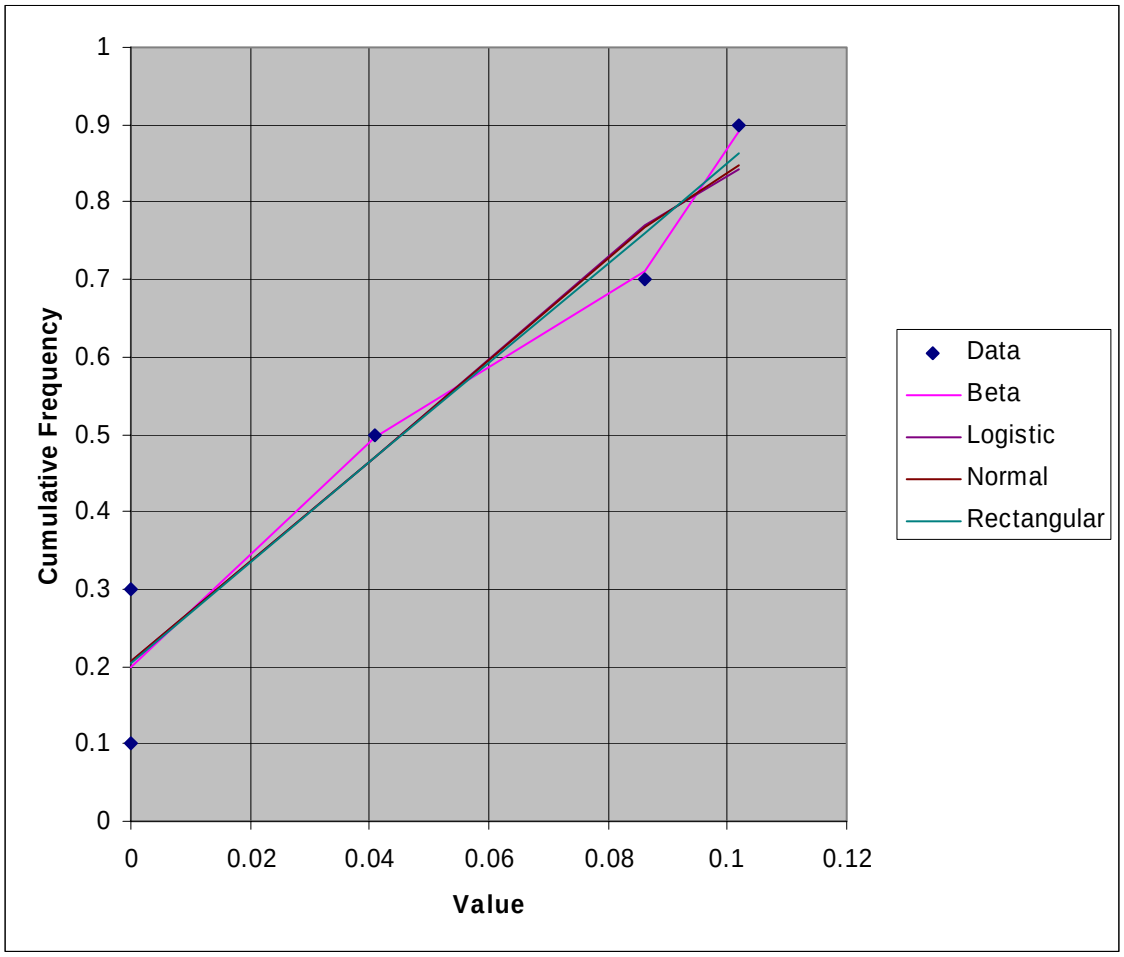

Table A5.6.6. Models Used to Characterize the Cumulative Distribution for Exponential Growth Rates

Model	Parameter 1	Parameter 2	Parameter 3	Parameter 4	RSQ	Probability
Rectangular	-0.03172	0.123324			0.026	0.61
Beta	0.297799	0.339917	-0.00264	0.10302	0.020	0.17
Normal	0.045299	0.055485			0.029	0.11
Logistic	4.51×10^{-2}	3.37×10^{-02}			0.029	0.10

See Appendix 6: Software for a description of the common names used for the parameters for these statistical distributions (models).

Table A5.6.7. Mean, Standard Deviation and Number of Samples (N) for Exponential Growth Rate (EGR) at 5 °C

Mean (log_{10} cfu/g/day)	Std. Dev.	N
0.046	0.47	5

Table A5.6.8. Maximum Growth at Various Temperatures

Temperature (°C)	<5	5-7	>7
Maximum Growth (log_{10} cfu/g)	5	6.5	8

7. Fresh Soft Cheese Food Category

Consumption

Table A5.7.1. Foods Included in Consumption Data Set

Food Code	Food
14133000	Queso Fresco
Source Survey:	**CSFII**

Figure A5.7.1. Cumulative Distribution for the Serving Size

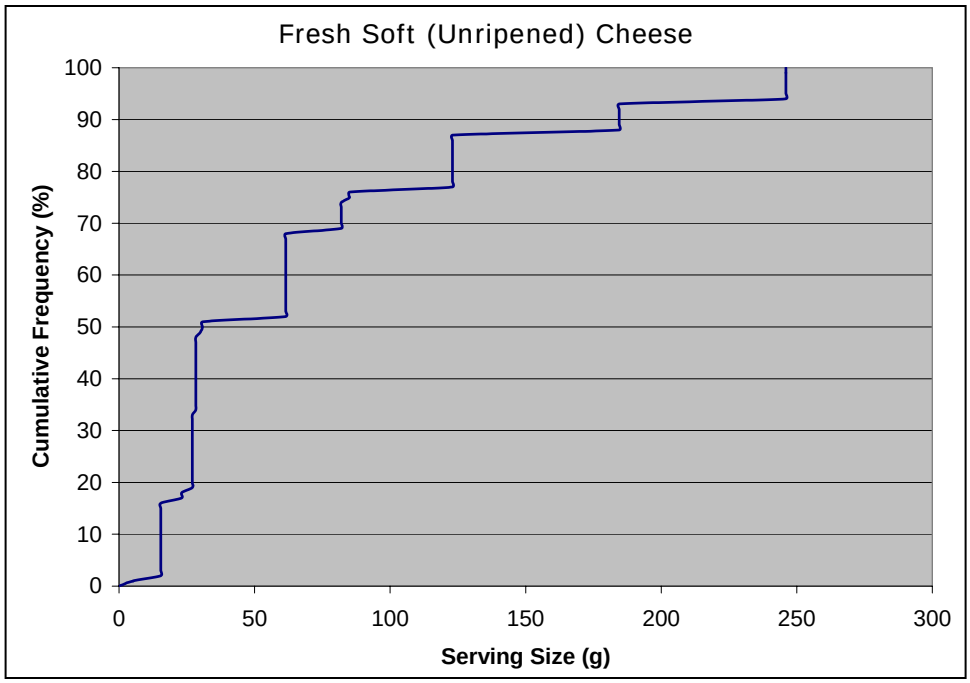

Table A5.7.2. Frequency Distribution of Amount Consumed per Serving

Percentiles (grams per serving)			
50th	75th	95th	99th
31	85	246	246

Contamination at Retail

Table A5.7.3. Foods Included in Contamination Level Data Set (See appendix 7 for corresponding references)

Foods
Fresh cheese (fornaggio fresco)
Fresh cheese, cow and goat milk
Hispanic style cheese
Brazilian soft cheese eaten fresh
Panela
Panellá
Queso Fresco
Queso Fresco, Requesoy

Post Retail Growth

Table A5.7.4. Foods Included in Post Retail Growth Data Set (See appendix 8 for corresponding references)

Foods
Queso Panella
Queso Blanco
Queso Fresco
Queso Ranchero

Table A5.7.5. Consumer Storage Times Used in this Risk Assessment (days)

Minimum	Mode	Maximum
0.5	1 to 5	15 to 30

Figure A5.7.2. Cumulative Distribution for the Exponential Growth Rate (EGR) at 5 °C

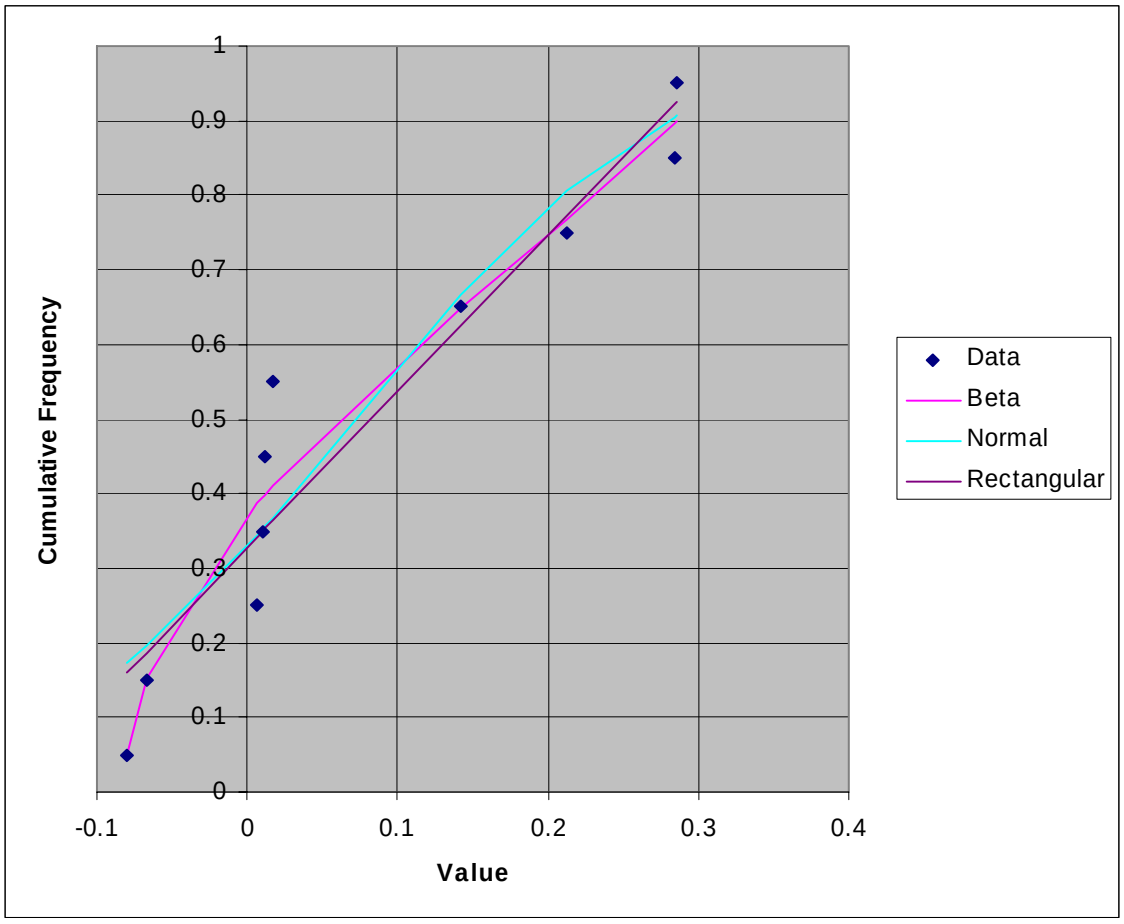

Table A5.7.6. Models Used to Characterize the Cumulative Distribution for Exponential Growth Rates

Model	Parameter 1	Parameter 2	Parameter 3	Parameter 4	RSQ	Probability
Beta	0.511485	0.741846	-0.0816	0.323527	0.048	0.83
Rectangular	-0.15621	0.320609			0.073	0.15
Normal	0.071799	0.161944			0.077	0.02

See Appendix 6: Software for a description of the common names used for the parameters for these statistical distributions (models).

Table A5.7.7. Mean, Standard Deviation and Number of Samples (N) for Exponential Growth Rate (EGR) at 5°C

Mean (log_{10} cfu/g/day)	Std. Dev.	N
0.082	0.138	10

Table A5.7.8. Maximum Growth at Various Temperatures

Temperature (°C)	<5	5-7	>7
Maximum Growth (log_{10} cfu/g)	5	6.5	8

8. Soft Unripened Cheese Food Category

Consumption

Table A5.8.1. Foods Included in Consumption Data Set

Food Code	Food
14200100	Cheese, cottage, not further specified
14201010	Cheese, cottage, creamed, large or small curd
14201200	Cottage cheese, farmer's
14201500	Cheese, ricotta
14202010	Cheese, cottage, with fruit
14203010	Cheese, cottage, dry curd
14203020	Cheese, cottage, salted, dry curd
14204010	Cheese, cottage, lowfat (1-2% fat)
14204020	Cheese, cottage, lowfat, with fruit
14204030	Cheese, cottage, lowfat, with vegetables
14205010	Cheese, cottage, low sodium
14206010	Cheese, cottage, lowfat, low sodium
14301010	Cheese, cream
14303010	Cheese, cream, lowfat

Source Survey: CSFII

Figure A5.8.1. Cumulative Distribution for the Serving Size

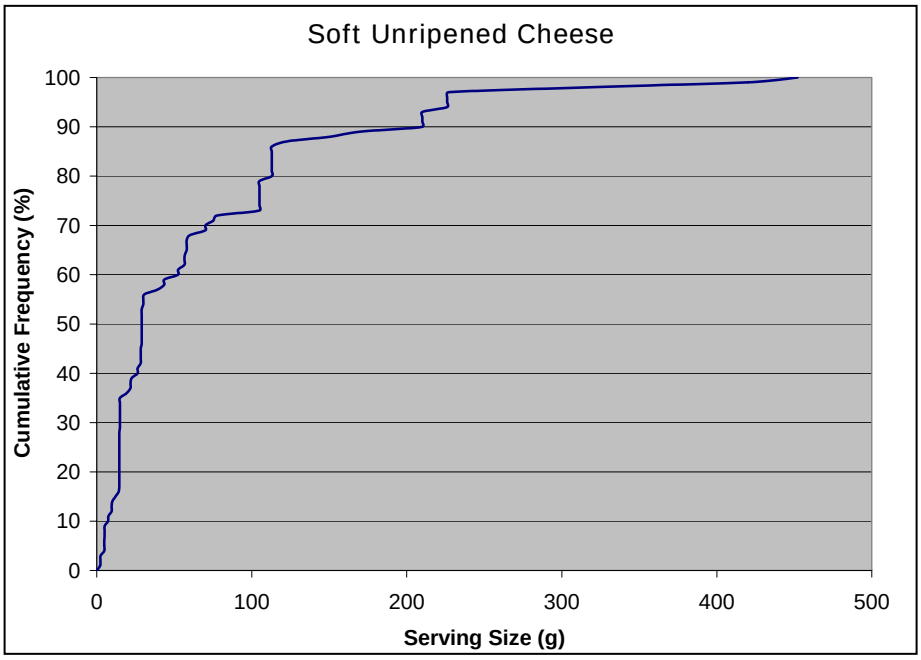

Table A5.8.2. Frequency Distribution of Amount Consumed per Serving

Percentiles (grams per serving)			
50th	75th	95th	99th
29	105	226	420

Contamination at Retail

Table A5.8.3. Foods Included in Contamination Level Data Set (See appendix 7 for corresponding references)

Foods
Anari
Cheese, cottage
Cheese, unripened
Cottage cheese
Cream cheese
Crème Mexicana
Farmer cheese
Gournay
Halloumi
Port fresh cheese
Soft paste cheeses

Post Retail Growth

Table A5.8.4. Foods Included in Post Retail Growth Data Set (See appendix 8 for corresponding references)

Foods
Cottage cheese
Cottage cheese (multiple brands)
Cream cheese
Ricotta (3 company brands)
Ricotta (whey cheese)
Teleme cheese

Table A5.8.5. Consumer Storage Times Used in this Risk Assessment (days)

Minimum	Mode	Maximum
0.5	6 to 10	15 to 45

Figure A5.8.2. Cumulative Distribution for the Exponential Reference Growth Rate (EGR) at 5^0C

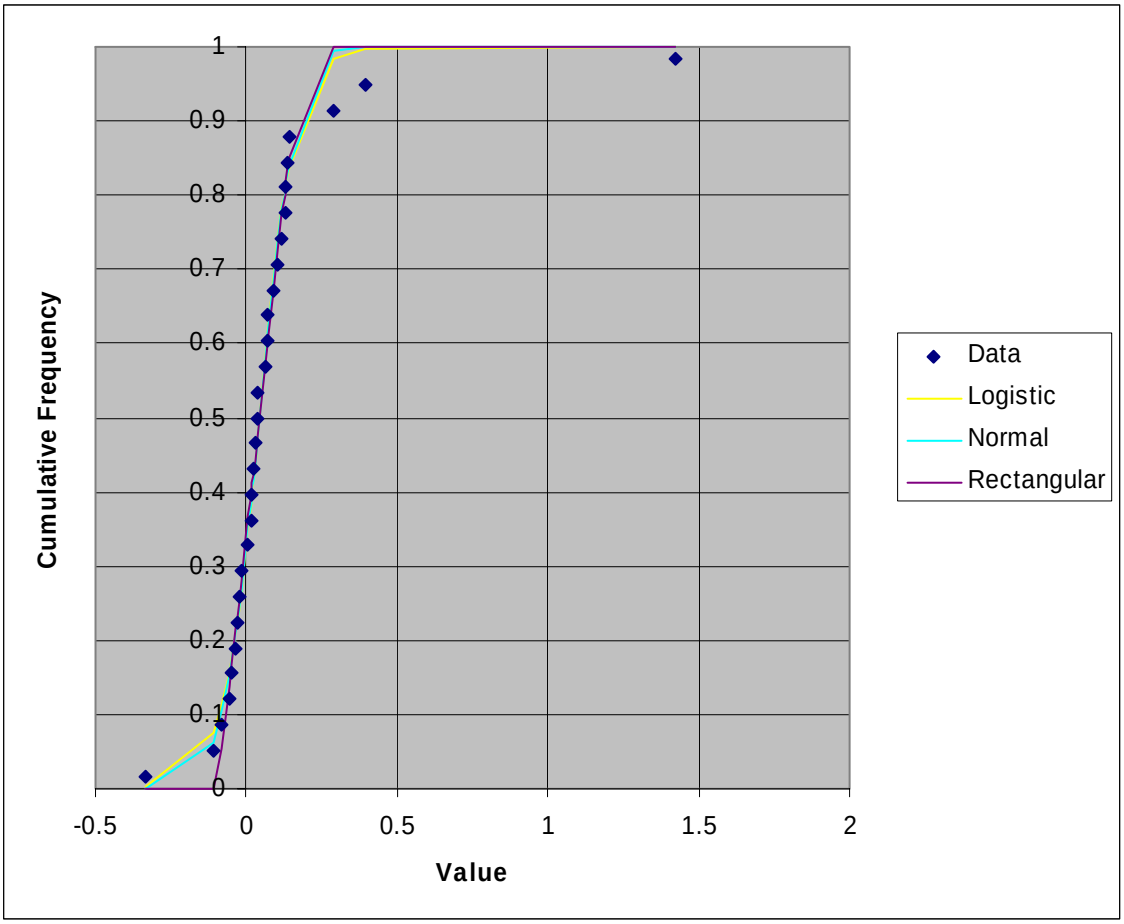

Table A5.8.6. Models Used to Characterize the Cumulative Distribution for Exponential Growth Rates

Model	Parameter 1	Parameter 2	RSQ	Probability
Rectangular	-0.09419	0.181873	0.028	0.60
Normal	0.043709	0.09762	0.026	0.20
Logistic	0.0436	0.0595	0.026	0.20

See Appendix 6: Software for a description of the common names used for the parameters for these statistical distributions (models).

Table A5.8.7. Mean, Standard Deviation and Number of Samples (N) for Exponential Growth Rate (EGR) at 5 °C

Mean (log_{10} cfu/g/day)	Std. Dev.	N
0.090	0.286	29

Table A5.8.8. Maximum Growth at Various Temperatures

Temperature (°C)	<5	5-7	>7
Maximum Growth (log_{10} cfu/g)	5	6.5	8

9. Soft Ripened Cheese Food Category

Consumption

Table A5.9.1. Foods Included in Consumption Data Set

Food Code	Food
14103010	Cheese, Camembert
14103020	Cheese, Brie
14104400	Cheese, Feta
14107010	Cheese, Mozzarella, not further specified
14107030	Cheese, Mozzarella, part skim
14107040	Cheese, Mozzarella, low sodium
14107060	Cheese, Mozzarella, nonfat or fat free

Source Survey: CSFII

Figure A5.9.1. Cumulative Distribution for the Serving Size

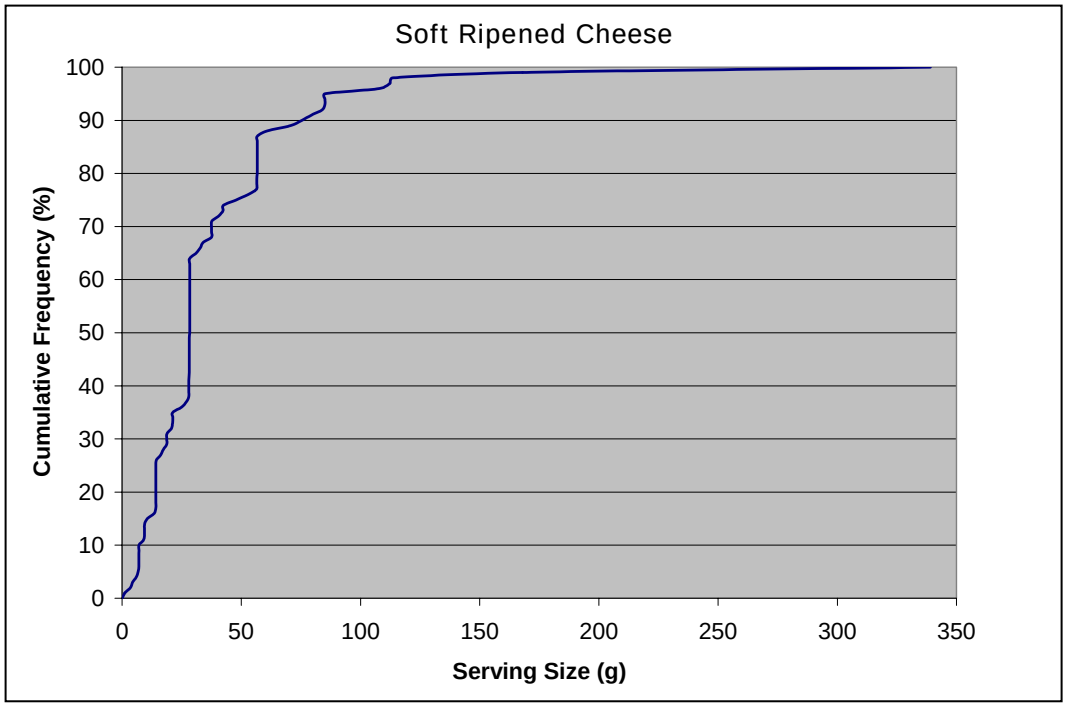

Table A5.9.2. Frequency Distribution of Amount Consumed per Serving

Percentiles (grams per serving)			
50th	75th	95th	99th
28	48	85	168

Contamination at Retail

Table A5.9.3. Foods Included in Contamination Level Data Set (See appendix 7 for corresponding references)

Foods
Brie
Brie/camembert
Brie/cheese, soft, short-ripened
Camambert
Cheese, white mold
Crescenza/cheese, soft, short-ripened
Feta cheese
Hartz mountain cheese Harzerkase
La Serena cheese, from raw ewes milk
Brazilian soft cheese eaten fresh
Mozzarella
Pyramid goat cheese
Soft, mold-ripened cheese
Soft mold ripened cheese
Taleggio

Post Retail Growth

Table A5.9.4. Foods Included in Post Retail Growth Data Set (See appendix 8 for corresponding references)

Foods
Blue
Brie
Camembert
Feta
Mozzarella

Table A5.9.5. Consumer Storage Times Used in this Risk Assessment (days)

Minimum	Mode	Maximum
0.5	6 to 10	15 to 45

Figure A5.9.2. Cumulative Distribution for the Exponential Reference Growth Rate (EGR) at 5 °C

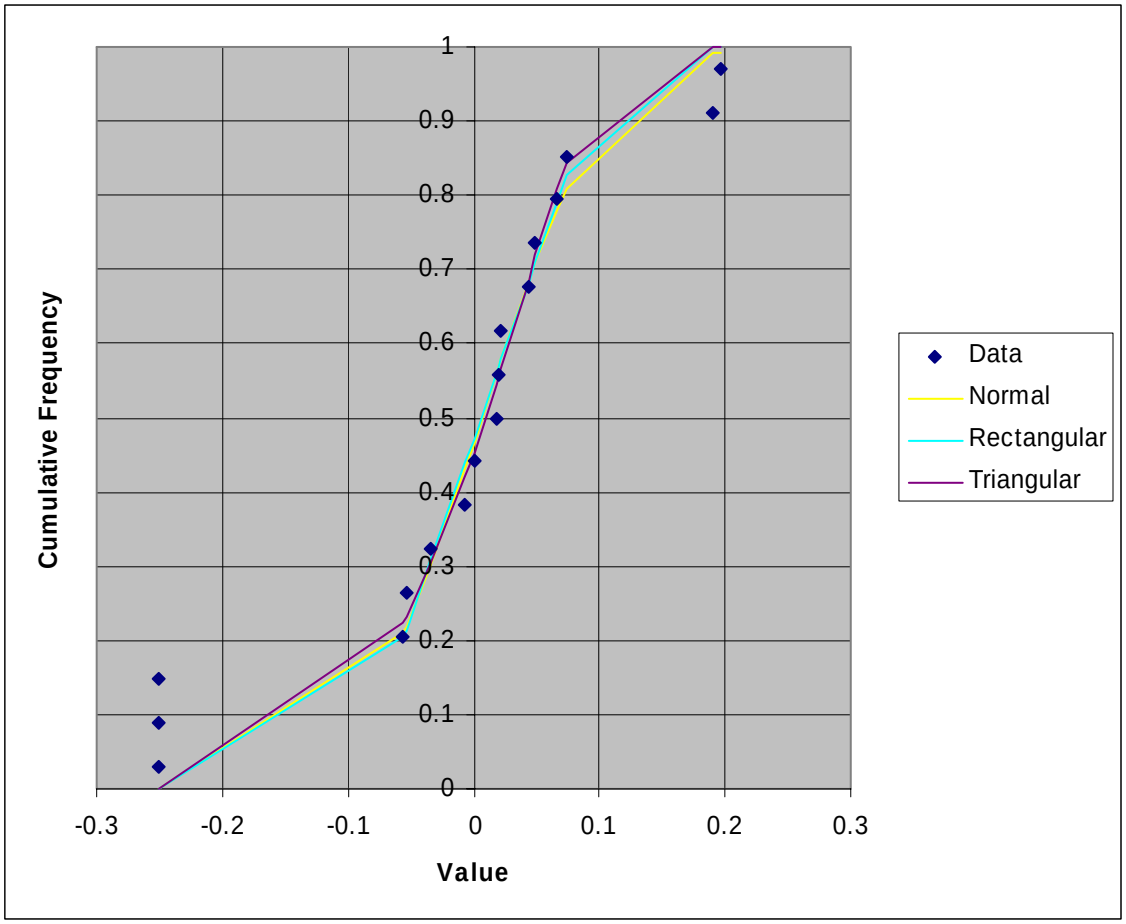

Table A5.9.6. Models Used to Characterize the Cumulative Distribution for Exponential Growth Rates

Model	Parameter 1	Parameter 2	Parameter 3	RSQ	Probability
Rectangular	-0.09855	0.109798		0.053	0.52
Triangular	-0.189	.0459	0.146452	0.048	0.29
Normal	0.006416	0.077436		0.051	0.19

See Appendix 6: Software for a description of the common names used for the parameters for these statistical distributions (models).

Table A5.9.7. Mean, Standard Deviation and Number of Samples (N) for Exponential Growth Rate (EGR) at 5°C

Mean (log_{10} cfu/g/day)	Std. Dev.	N
-0.013	0.133	17

Table A5.9.8. Maximum Growth at Various Temperatures

Temperature (°C)	<5	5-7	>7
Maximum Growth (log_{10} cfu/g)	5	6.5	8

10. Semi-soft Cheese Food Category

Consumption

Table A5.10.1. Foods Included in Consumption Data Set

Food Code	Food
14101010	Cheese, blue or Roquefort
14102010	Cheese, brick
14104600	Cheese, fontina
14105010	Cheese, gouda or edam
14106010	Cheese, Limburger
14106200	Cheese, Monterey
14106500	Cheese, Monterey, lowfat
14107200	Cheese, Muenster
14108400	Cheese, provolone
14108410	Cheese, provolone, reduced fat, reduced sodium

Source Survey: CSFII

Figure A5.10.1. Cumulative Distribution for the Serving Size

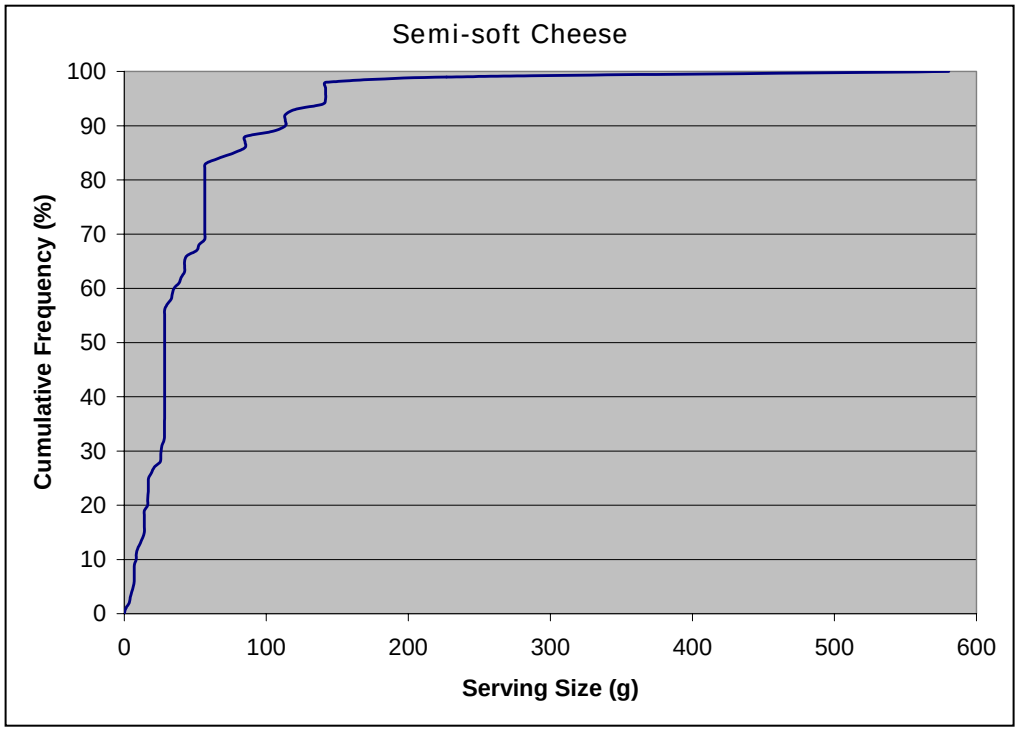

Table A5.10.2. Frequency Distribution of Amount Consumed per Serving

Percentiles (grams per serving)			
50th	75th	95th	99th
28	57	142	227

Contamination at Retail

Table A5.10.3. Foods Included in Contamination Level Data Set (See appendix 7 for corresponding references)

Foods
Blue veined soft cheese
Butter cheese
Edam
Gorgonzola
Gouda cheese
Havarti
Jack cheese
Limburger
Manchego
Monterey Jack cheese
Muenster
Pinna ricotta
Roquefort
Semi soft cheese
String
Swiss cheese

Post Retail Growth

Table A5.10.4. Foods Included in Post Retail Growth Data Set (See appendix 8 for corresponding references)

Foods
Brick (surface ripened)
Emmenthaler, tilster
Gouda
Havarti
Limburger
Monterey Jack
Muenster
Provolone
String cheese
Trappist

Table A5.10.5. Consumer Storage Times Used in this Risk Assessment (days)

Minimum	Mode	Maximum
0.5	6 to 10	15 to 45

Figure A5.10.2. Cumulative Distribution for the Exponential Reference Growth Rate (EGR) at 5 °C

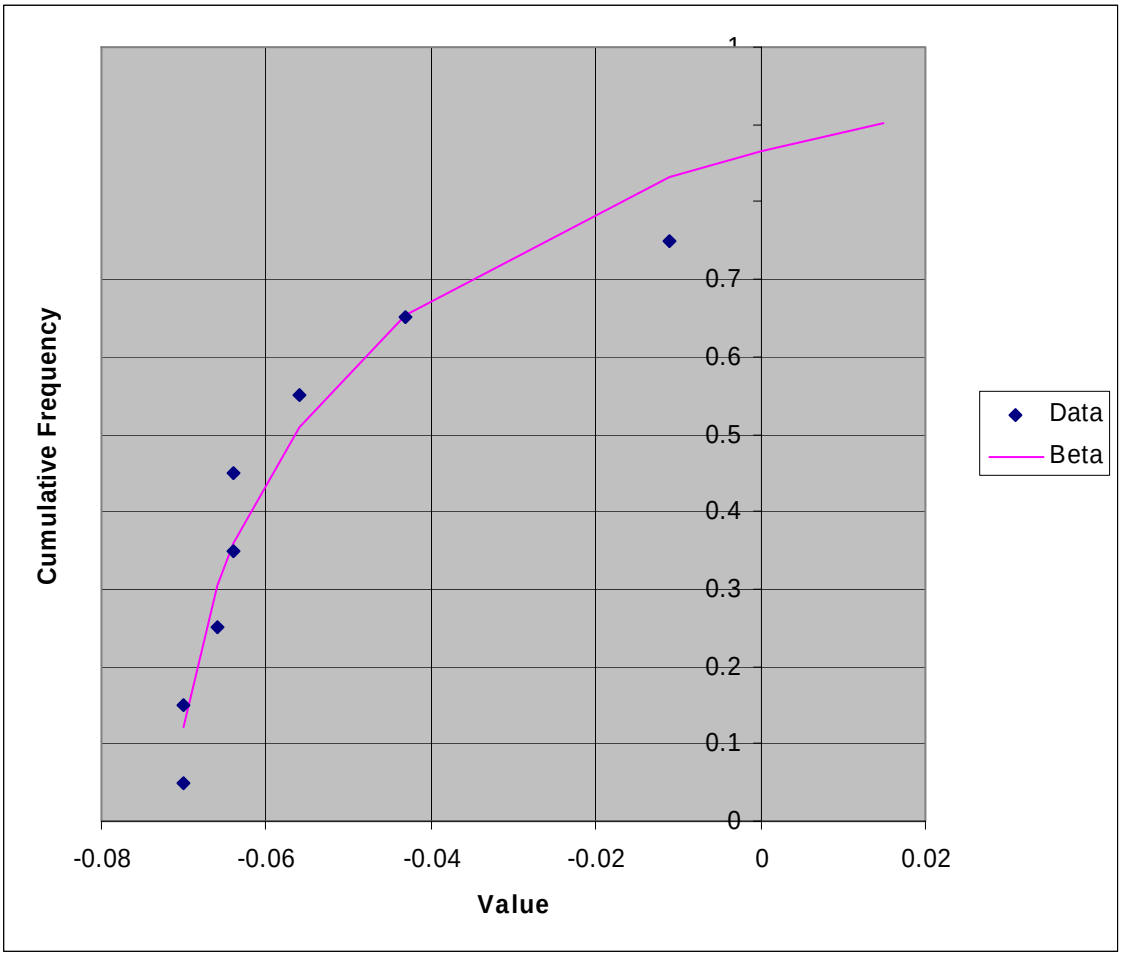

Table A5.10.6. Model Used to Characterize the Cumulative Distribution for Exponential Growth Rates

Model	Parameter 1	Parameter 2	Parameter 3	Parameter 4	RSQ	Probability
Beta	0.489794	360.3561	-0.0707	23.05749	0.028	1.0

See Appendix 6: Software for a description of the common names used for the parameters for these statistical distributions (models).

Table A5.10.7. Mean, Standard Deviation and Number of Samples (N) for Exponential Growth Rate (EGR) at 5 °C

Mean (log_{10} cfu/g/day)	Std. Dev.	N
-0.043	0.032	10

Table A5.10.8. Maximum Growth at Various Temperatures

Temperature (°C)	<5	5-7	>7
Maximum Growth (log_{10} cfu/g)	5	6.5	8

11. Hard Cheese Food Category

Consumption

Table A5.11.1. Foods Included in Consumption Data Set

Food Code	Food
14104010	Cheese, natural, Cheddar or American type
14104020	Cheese, Cheddar or American type, dry, grated
14104200	Cheese, Colby
14104250	Cheese, Colby Jack
14105200	Cheese, Gruyere
14108010	Cheese, Parmesan, dry grated
14108020	Cheese, Parmesan, hard
14108050	Cheese, Parmesan, low sodium
14108060	Parmesan cheese topping, fat free
14109010	Cheese, Swiss
14109020	Cheese, Swiss, low sodium
14109030	Cheese, Swiss, lowfat
14110010	Cheese, Cheddar or Colby, low sodium
14110020	Cheese, Cheddar or Colby, low sodium, lowfat
14110030	Cheese, Cheddar or Colby, lowfat
14131000	Queso Anejo (aged Mexican cheese)
14131500	Queso Asadero
14132000	Queso Chihuahua

Source Survey: CSFII

Figure A5.11.1. Cumulative Distribution for the Serving Size

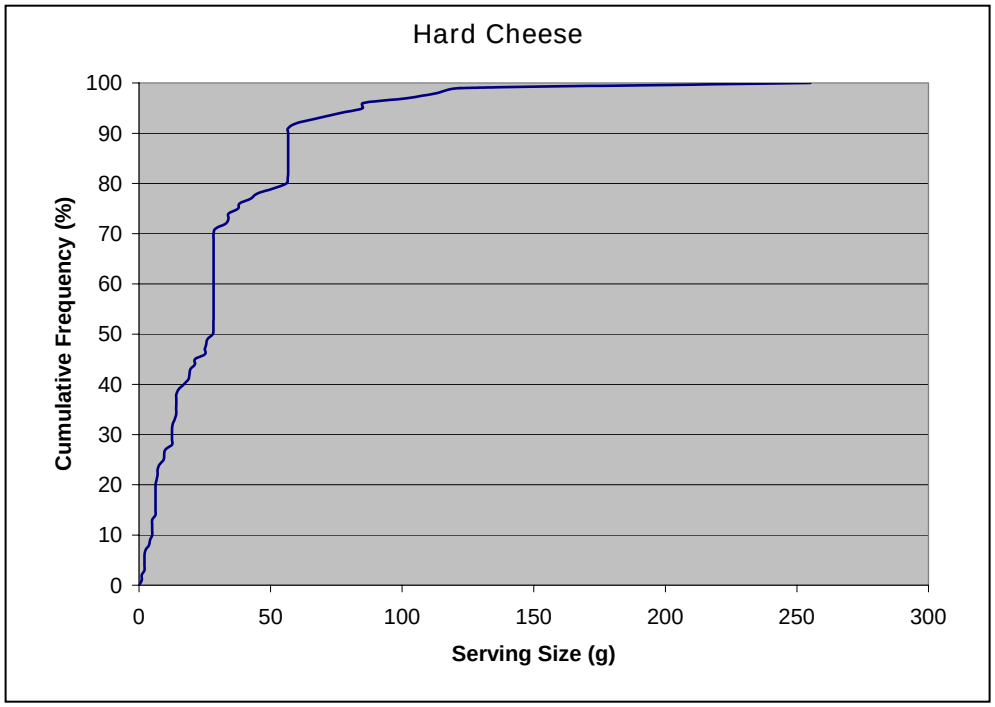

Table A5.11.2. Frequency Distribution of Amount Consumed per Serving

Percentiles (grams per serving)			
50th	75th	95th	99th
28	38	85	122

Contamination at Retail

Table A5.11.3. Foods Included in Contamination Level Data Set (See appendix 7 for corresponding references)

Foods
Cacique Asadero
Cheddar
Cheese, hard
Chihuahua
Colby Jack cheese
Gjestost
Parmesan
Provolone
Quesco Cotija
Queso Anejo

Post Retail Growth

Table A5.11.4. Foods Included in Post Retail Growth Data Set (See appendix 8 for corresponding references)

Foods
Cheddar
Cheddar, cracker barrel
Cheddar, mild
Cheddar, sharp
Colby
Emmenthaler, gruyere
Parmesan
Stilton cheese
Swiss

Table A5.11.5. Consumer Storage Times Used in this Risk Assessment (days)

Minimum	Mode	Maximum
0.5	6 to 10	90 to 180

Figure A5.11.2. Cumulative Distribution for the Exponential Reference Growth Rate (EGR) at 5 °C

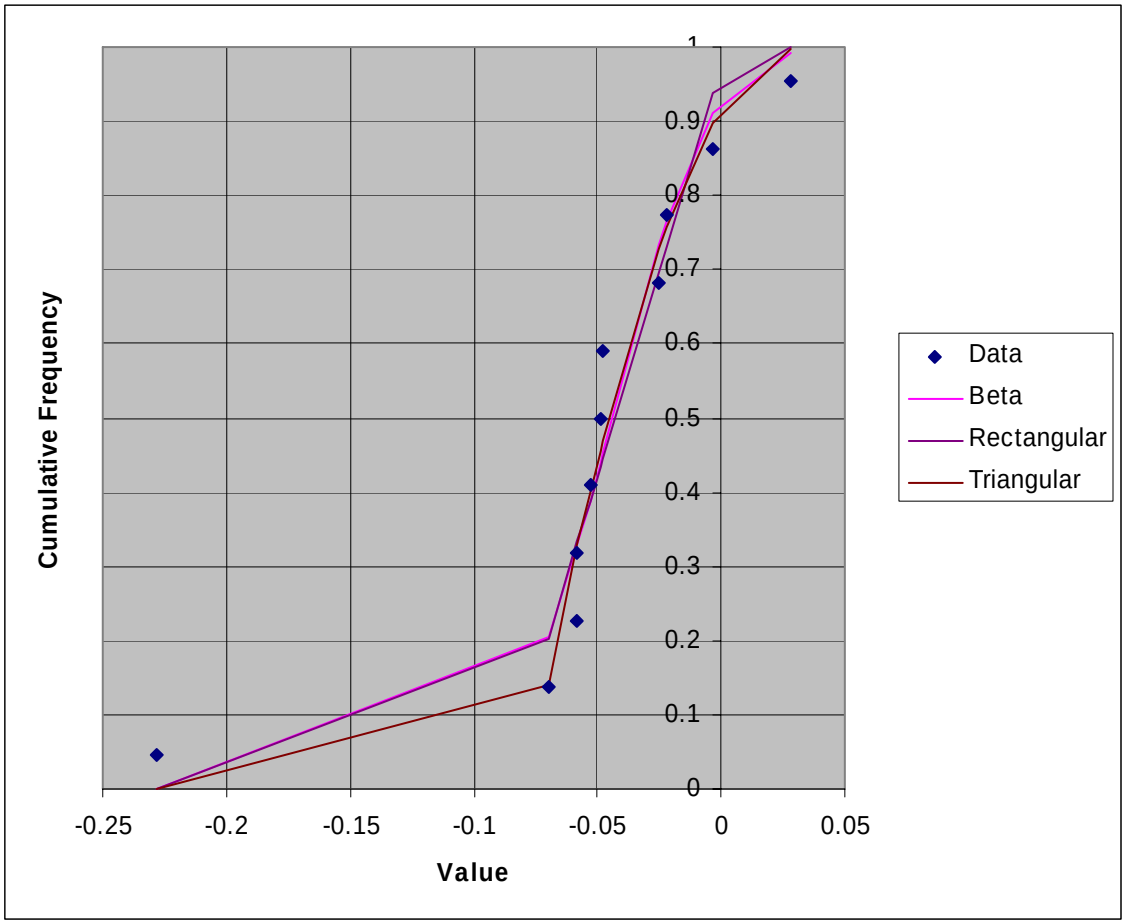

Table A5.11.6. Models Used to Characterize the Cumulative Distribution for Exponential Growth Rates

Model	Parameter 1	Parameter 2	Parameter 3	Parameter 4	RSQ	Probability
Triangular	-0.0788	-0.0773	0.032607		0.035	0.77
Rectangular	-0.08847	0.002697			0.054	0.17
Beta	5455.206	2166.964	-4.33172	1.658675	0.047	0.06

See Appendix 6: Software for a description of the common names used for the parameters for these statistical distributions (models).

Table A5.11.7. Mean, Standard Deviation and Number of Samples (N) for Exponential Growth Rate (EGR) at 5 °C

Mean (log_{10} cfu/g/day)	Std. Dev.	N
-0.053	0.065	11

Table A5.11.8. Maximum Growth at Various Temperatures

Temperature (°C)	<5	5-7	>7
Maximum Growth (log_{10} cfu/g)	5	6.5	8

12. Processed Cheese Food Category

Consumption

Table A5.12.1. Foods Included in Consumption Data Set

Food Code	Food
14410100	Cheese, processed, American and Swiss blends
14410200	Cheese, processed, American or Cheddar type
14410210	Cheese, processed, American or Cheddar type, low sodium
14410300	Cheese, processed, American or Cheddar type, lowfat
14410310	Cheese, processed, American, Cheddar, or Colby, lowfat, low sodium
14410330	Cheese, processed cheese product, American or Cheddar type, reduced fat
14410340	Cheese, processed cheese product, American or Cheddar type, reduced fat, reduced sodium
14410350	Cheese, processed, American or Cheddar type, nonfat or fat free
14410380	Cheese, processed cream cheese product, nonfat or fat free
14410400	Cheese, processed, Swiss
14410410	Cheese, processed, Swiss, low sodium
14410420	Cheese, processed, Swiss, lowfat
14410440	Cheese, processed, Swiss, lowfat, low sodium
14410450	Cheese, processed cheese product, Swiss, reduced fat
14410500	Cheese, processed cheese food
14410600	Cheese, processed, with vegetables
14410710	Cheese, processed, Mozzarella, low sodium
14420000	Cheese spread, not further specified
14420100	Cheese spread, American or Cheddar cheese base
14420140	Cheese spread, American or Cheddar cheese base, lowfat, low sodium
14420160	Cheese spread, Swiss cheese base
14420200	Cheese spread, cream cheese or Neufchatel base
14650100	Cheese sauce
Source Survey: CSFII	

Figure A5.12.1. Cumulative Distribution for the Serving Size

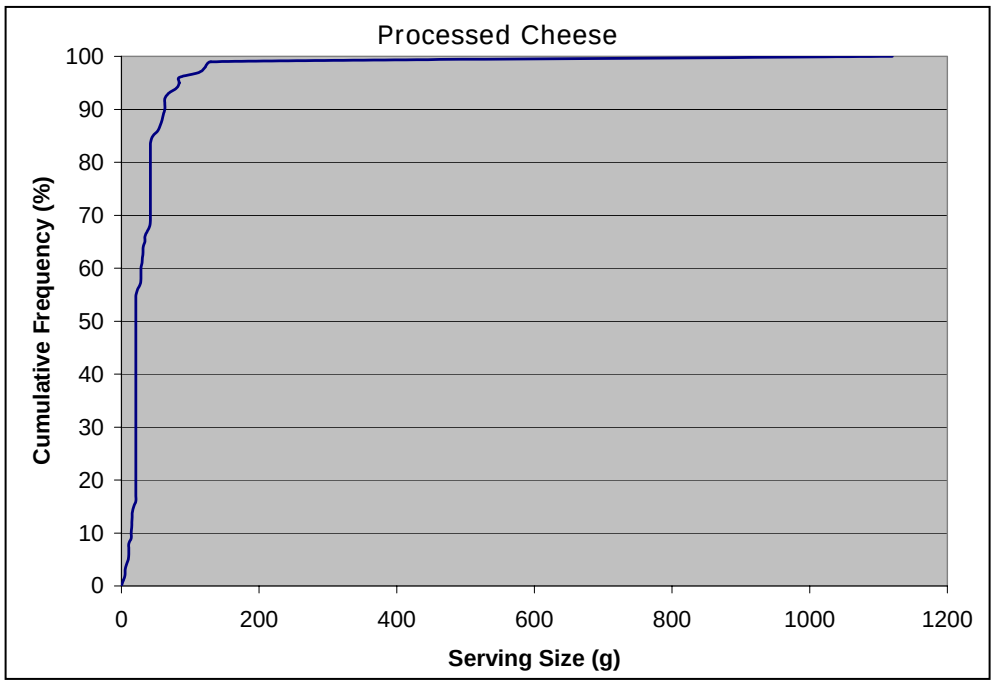

Table A5.12.2. Frequency Distribution of Amount Consumed per Serving

Percentiles (grams per serving)			
50th	75th	95th	99th
21	42	84	130

Contamination at Retail

Table A5.12.3. Foods Included in Contamination Level Data Set (See appendix 7 for corresponding references)

Foods
Cheese, pasteurized and processed
Cheese and spreads
Cheese, processed
Cheese, Schnittkase-sliced

Post Retail Growth

Table A5.12.4. Foods Included in Post Retail Growth Data Set (See appendix 8 for corresponding references)

Foods
American process cheese
American process cheese with sorbate and citrate
Piedmont process cheese
Cold pack cheese
Non-acid
Pasteurized process cheese

Table A5.12.5. Consumer Storage Times Used in this Risk Assessment (days)

Minimum	Mode	Maximum
0.5	6 to 10	45 to 90

Figure A5.12.2. Cumulative Distribution for the Exponential Reference Growth Rate (EGR) at 5 °C

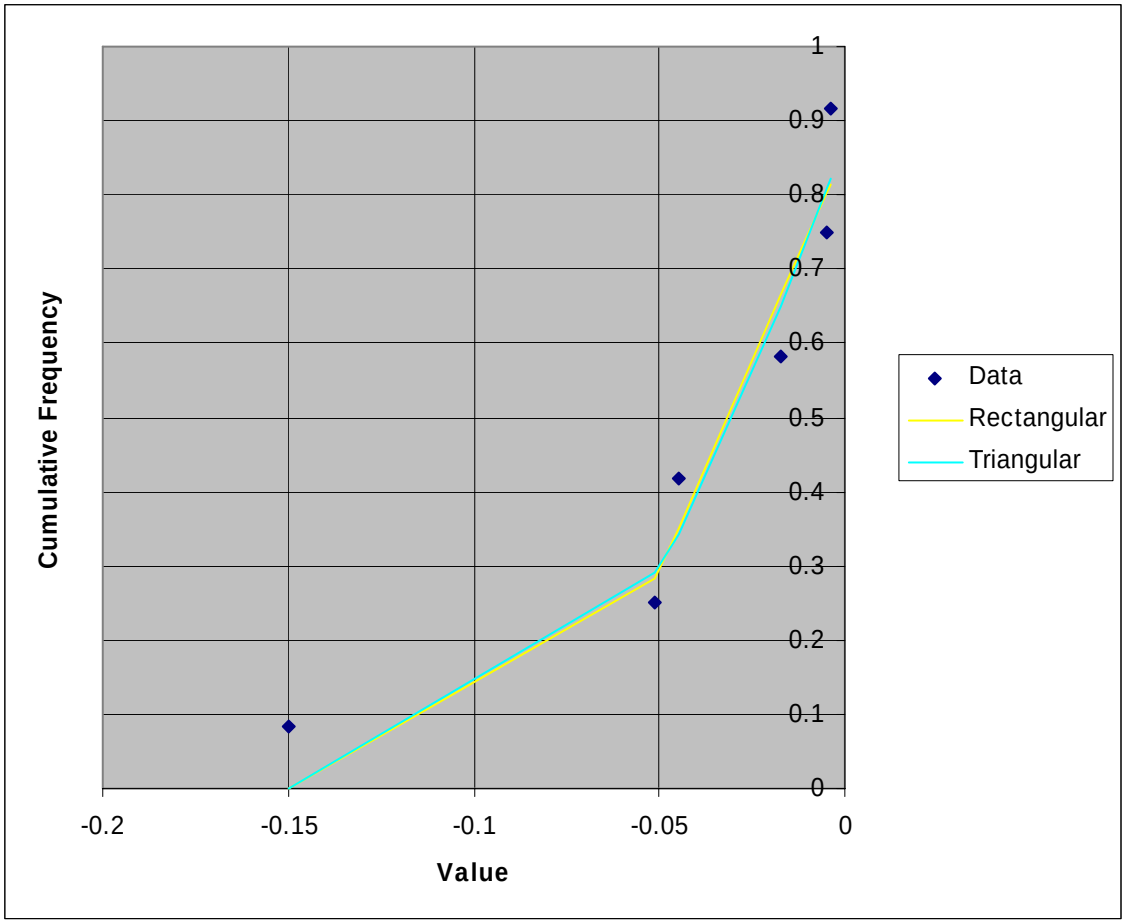

Table A5.12.6. Models Used to Characterize the Cumulative Distribution for Exponential Growth Rates

Model	Parameter 1	Parameter 2	Parameter 3	RSQ	Probability
Rectangular	-0.0761	0.012525		0.033	0.73
Triangular	-0.120	0.0187	-0.00219	0.030	0.27

See Appendix 6: Software for a description of the common names used for the parameters for these statistical distributions (models).

Table A5.12.7. Mean, Standard Deviation and Number of Samples (N) for Exponential Growth Rate (EGR) at 5 °C

Mean (log_{10} cfu/g/day)	Std. Dev.	N
-0.045	0.055	6

Table A5.12.8. Maximum Growth at Various Temperatures

Temperature (°C)	<5	5-7	>7
Maximum Growth (log_{10} cfu/g)	5	6.5	8

13. Pasteurized Fluid Milk Food Category

Consumption

Table A5.13.1. Foods Included in Consumption Data Set

Food Code	Food
11100000	Milk, not further specified
11111000	Milk, cow's, fluid, whole
11111160	Milk, calcium fortified, cow's, fluid, 1% fat
11111170	Milk, calcium fortified, cow's, fluid, skim or nonfat
11112000	Milk, cow's, fluid, lowfat, not specified as to percent fat
11112110	Milk, cow's, fluid, 2% fat
11112120	Milk, cow's, fluid, acidophilus, 1% fat
11112130	Milk, cow's, fluid, acidophilus, 2% fat
11112210	Milk, cow's, fluid, 1% fat
11113000	Milk, cow's, fluid, skim or nonfat, 0.5% or less butterfat
11114300	Milk, cow's, fluid, lactose reduced, 1% fat
11114310	Milk, cow's, fluid, lactose reduced, 1% fat, fortified with calcium
11114320	Milk, cow's, fluid, lactose reduced, nonfat
11114321	Milk, cow's, fluid, lactose reduced, nonfat, fortified with calcium
11114330	Milk, cow's, fluid, lactose reduced, 2% fat
11116000	Milk, goat's, fluid, whole
11511000	Milk, chocolate, not further specified
11511100	Milk, chocolate, whole milk based
11511200	Milk, chocolate, low fat milk based
11511300	Milk, chocolate, skim milk based
11519050	Milk, flavors other than chocolate, whole milk based

Source Survey: **CSFII**

(Pasteurized Fluid Milk consumption was estimated to be 99.5% of total milk)

Figure A5.13.1. Cumulative Distribution for the Serving Size

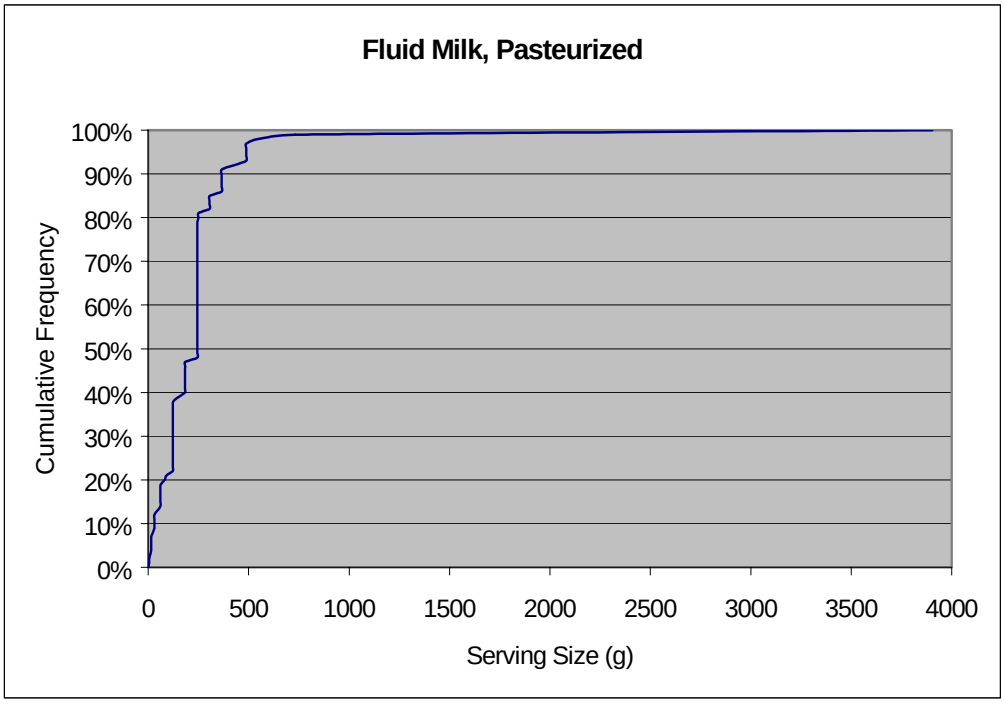

Table A5.13.2. Frequency Distribution of Amount Consumed per Serving

Percentiles (grams per serving)			
50th	75th	95th	99th
244	245	488	732

Contamination at Retail

Table A5.13.3. Foods Included in Contamination Level Data Set (See appendix 7 for corresponding references)

Foods
Pasteurized fluid milk
Milk, cow's
Milk, sterilized
Milk, chocolate
Milk, lowfat
Milk, skim
Milk, whole
Milk, treated

Post Retail Growth

Table A5.13.4. Foods Included in Post Retail Growth Data Set (See appendix 8 for corresponding references)

Food
Fluid milk, pasteurized
Fluid milk, un-pasteurized
Fluid milk, skim/whole/chocolate
Fluid milk, UHT

Table A5.13.5. Consumer Storage Times Used in this Risk Assessment (days)

Minimum	Mode	Maximum
0.5	3 to 5	10 to 15

Figure A5.13.2. Cumulative Distribution for the Exponential Reference Growth Rate (EGR) at 5 ^{0}C

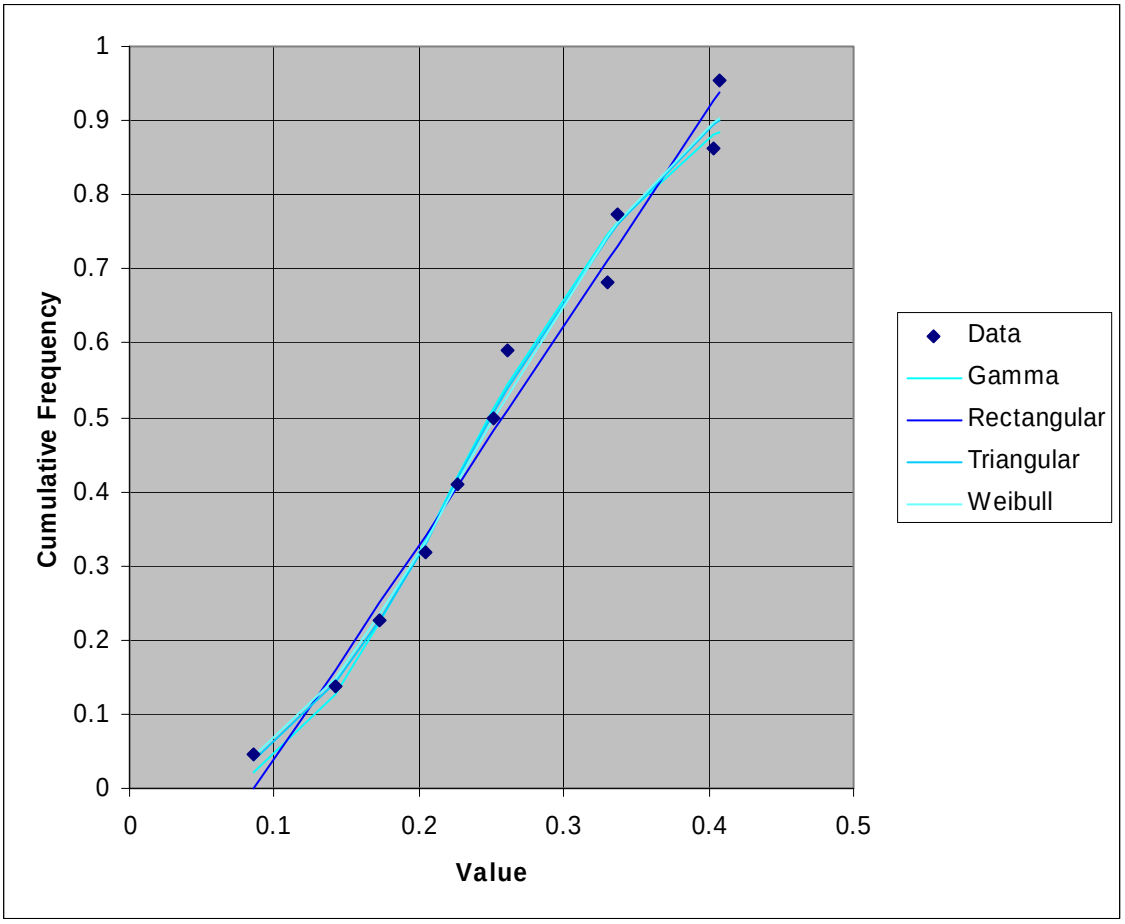

Table A5.13.6. Models Used to Characterize the Cumulative Distribution for Exponential Growth Rates

Model	Parameter 1	Parameter 2	Parameter 3	RSQ	Probability
Rectangular	0.088151	0.428324		0.018	0.35
Triangular	0.0237	0.217	0.534217	0.011	0.25
Weibull	2.53	0.291744		0.012	0.21
Gamma	5.26	0.050411		0.013	0.19

See Appendix 6: Software for a description of the common names used for the parameters for these statistical distributions (models).

Table A5.13.7. Mean, Standard Deviation and Number of Samples (N) for Exponential Growth Rate (EGR) at 5 °C

Mean (log_{10} cfu/g/day)	Std. Dev.	N
0.257	0.105	11

NOTE: EGR derived using random sampling of growth data.

Table A5.13.8 Maximum Growth at Various Temperatures

Temperature (°C)	<5	5-7	>7
Maximum Growth (log_{10} cfu/g)	7	7.5	8

14. Unpasteurized Fluid Milk Food Category

Consumption

Table A5.14.1. Foods Included in Consumption Data Set

Food Code	Food
Unpasteurized Fluid Milk consumption was estimated to be 0.5% of total milk (see Table A5.13.1. Fluid milk, pasteurized food category)	

Figure A5.14.1. Cumulative Distribution for the Serving Size

The cumulative distribution for Pasteurized Fluid Milk was used, see Fig. A5.13.1.

Table A5.14.2. Frequency Distribution of Amount Consumed per Serving

Percentiles (grams per serving)			
50th	75th	95th	99th
244	245	488	732

Contamination at Retail

Table A5.14.3. Foods Included in Contamination Level Data Set (See appendix 7 for corresponding references)

Foods[a]
Unpasteurized fluid milk, cow
Raw milk for sale (raw milk off farm)
Milk, untreated (bulk raw milk)
Unpasteurized fluid milk, goat
Unpasteurized fluid milk, non-bovine

Post Retail Growth

Table A5.14.4. Foods Included in Post Retail Growth Data Set (See appendix 8 for corresponding references)

The foods included in the post retail growth data set for pasteurized fluid milk were used, see Table A5.13.4

Table A5.14.5. Consumer Storage Times Used in this Risk Assessment (days)

Minimum	Mode	Maximum
0.5	2 to 3	7 to 10

Figure A5.14.2. Cumulative Distribution for the Exponential Reference Growth Rate (EGR) at 5 ^{0}C

The cumulative distribution for the exponential reference growth rate (EGR) at 5 ^{0}C for pasteurized milk was used, see Figure A5.13.2

Table A5.14.6. Models Used to Characterize the Cumulative Distribution for Exponential Growth Rates

The models used to characterize the cumulative distribution for the exponential reference growth rate (EGR) at 5 ^{0}C for pasteurized milk were used, see Table A5.13.6

Table A5.14.7. Mean, Standard Deviation and Number of Samples (N) for Exponential Growth Rate (EGR) at 5 °C

The mean, standard deviation and number of samples (N) for exponential growth rate (EGR) at 5 °C for pasteurized milk were used, see Table A5.13.7

Table A5.14.8. Maximum Growth at Various Temperatures

Temperature (°C)	<5	5-7	>7
Maximum Growth ($\log_{10}$ cfu/g)	7	7.5	8

15. Ice cream and Frozen Dairy Products Food Category

Consumption

Table A5.15.1. Foods Included in Consumption Data Set

Food Code	Food
11459990	Yogurt, frozen, not specified as to flavor, not specified as to type of milk
11460000	Yogurt, frozen, flavors other than chocolate, not specified as to type of milk
11460100	Yogurt, frozen, chocolate, not specified as to type of milk
11460150	Yogurt, frozen, not specified as to flavor, lowfat milk
11460160	Yogurt, frozen, chocolate, lowfat milk
11460170	Yogurt, frozen, flavors other than chocolate, lowfat milk
11460190	Yogurt, frozen, not specified as to flavor, nonfat milk
11460200	Yogurt, frozen, chocolate, nonfat milk
11460250	Yogurt, frozen, flavors other than chocolate, with sorbet or sorbet coated
11460300	Yogurt, frozen, flavors other than chocolate, nonfat milk
11460400	Yogurt, frozen, chocolate, nonfat milk, with low calorie sweetener
11460410	Yogurt, frozen, flavors other than chocolate, nonfat milk, with low calorie sweetener
11460420	Yogurt, frozen, not specified as to flavor, whole milk
11460430	Yogurt, frozen, chocolate, whole milk
11460440	Yogurt, frozen, flavors other than chocolate, whole milk
11461200	Yogurt, frozen, sandwich
11461250	Yogurt, frozen, cone, chocolate
11461260	Yogurt, frozen, cone, flavors other than chocolate
11461270	Yogurt, frozen, cone, flavors other than chocolate, lowfat milk
13110000	Ice cream, not further specified
13110100	Ice cream, regular, flavors other than chocolate
13110110	Ice cream, regular, chocolate
13110120	Ice cream, rich, flavors other than chocolate
13110130	Ice cream, rich, chocolate
13110200	Ice cream, soft serve, flavors other than chocolate
13110210	Ice cream, soft serve, chocolate
13110220	Ice cream, soft serve, not specified as to flavor
13110400	Milk dessert, frozen, flavors other than chocolate (no butterfat)
13110450	Milk dessert, frozen, chocolate (no butterfat)
13120050	Ice cream bar or stick, not chocolate covered or cake covered
13120100	Ice cream bar or stick, chocolate covered
13120110	Ice cream bar or stick, chocolate or caramel covered, with nuts
13120120	Ice cream bar or stick, rich chocolate ice cream, thick chocolate covering
13120121	Ice cream bar or stick, rich ice cream, thick chocolate covering
13120130	Ice cream bar or stick, rich ice cream, chocolate covered, with nuts

13120140	Ice cream bar or stick, chocolate ice cream, chocolate covered
13120300	Ice cream bar, cake covered
13120400	Ice cream bar or stick with fruit
13120500	Ice cream sandwich
13120550	Ice cream cookie sandwich
13120700	Ice cream cone with nuts, flavors other than chocolate
13120710	Ice cream cone, chocolate covered, with nuts, flavors other than chocolate
13120720	Ice cream cone, chocolate covered or dipped, flavors other than chocolate
13120730	Ice cream cone, no topping, flavors other than chocolate
13120740	Ice cream cone, no topping, not specified as to flavor
13120750	Ice cream cone with nuts, chocolate ice cream
13120770	Ice cream cone, no topping, chocolate ice cream
13120790	Ice cream sundae cone
13120800	Ice cream soda, flavors other than chocolate
13120810	Ice cream soda, chocolate
13121100	Ice cream sundae, fruit topping, with whipped cream
13121200	Ice cream sundae, prepackaged type, flavors other than chocolate
13121300	Ice cream sundae, chocolate or fudge topping, with whipped cream
13122100	Ice cream pie, no crust
13122500	Ice cream pie, with cookie crust, fudge topping, and whipped cream
13124100	Sorbet and ice cream
13125100	Ice cream with sherbet
13126000	Ice cream, fried
13130100	Ice milk, not further specified
13130300	Ice milk, flavors other than chocolate
13130310	Ice milk, chocolate
13130350	Ice milk, premium, flavors other than chocolate
13130360	Ice milk, premium, chocolate
13130590	Ice milk, soft serve, not specified as to flavor
13130600	Ice milk, soft serve, flavors other than chocolate
13130610	Ice milk, soft serve, chocolate
13130620	Ice milk, soft serve cone, flavors other than chocolate
13130630	Ice milk, soft serve cone, chocolate
13130640	Ice milk, soft serve cone, not specified as to flavor
13135000	Ice milk sandwich
13140100	Ice milk bar or stick, chocolate coated
13140110	Ice milk bar or stick, chocolate covered, with nuts
13140550	Ice milk cone, chocolate
13140600	Ice milk sundae, soft serve, chocolate or fudge topping, with whipped cream
13140630	Ice milk sundae, soft serve, fruit topping, with whipped cream
13140660	Ice milk sundae, soft serve, chocolate or fudge topping (without whipped cream)
13140670	Ice milk sundae, soft serve, fruit topping (without whipped cream)

13140680	Ice milk sundae, soft serve, not fruit or chocolate topping (without whipped cream)
13140700	Ice milk creamsicle or dreamsicle
13140900	Ice milk, fudgesicle
13141100	Ice milk, with sherbet or ice cream
13142000	Milk dessert bar or stick, frozen, with coconut
13150000	Sherbet, all flavors
13160100	Milk dessert, frozen, lowfat, made with low calorie sweetener, flavors other than chocolate
13160150	Milk dessert, frozen, nonfat, made with low calorie sweetener, chocolate
13160160	Milk dessert, frozen, nonfat, made with low calorie sweetener, flavors other than chocolate
13160200	Milk dessert, frozen, lowfat, flavors other than chocolate
13160210	Milk dessert, frozen, lowfat, chocolate
13160400	Milk dessert, frozen, milkfat free, flavors other than chocolate
13160410	Milk dessert, frozen, milkfat free, chocolate
13160600	Milk dessert, frozen, made with low calorie sweetener, flavors other than chocolate
13160650	Milk dessert, frozen, made with low calorie sweetener, chocolate
13161000	Milk dessert bar, frozen, made from lowfat milk
13161600	Milk dessert bar, frozen, made from lowfat milk and low calorie sweetener
13161630	Ice milk bar or stick, with low calorie sweetener, chocolate coated

Source Survey: **CSFII**

Figure A5.15.1. Cumulative Distribution for the Serving Size

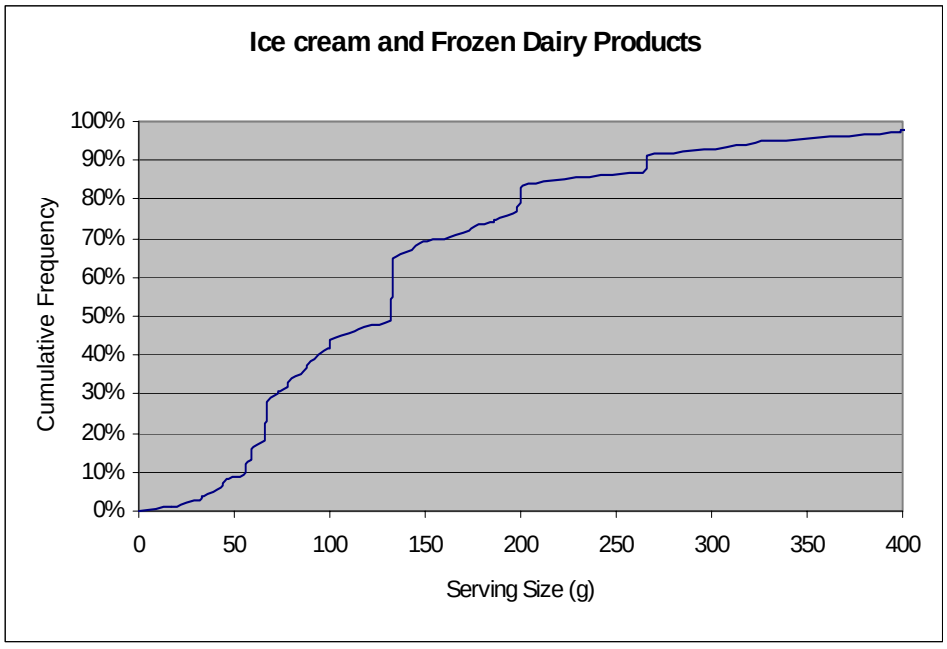

Table A5.15.2. Frequency Distribution of Amount Consumed per Serving

Percentile (grams per serving)			
50th	75th	95th	99th
132	186	330	454

Contamination at Retail

Table A5.15.3. Foods Included in Contamination Level Data Set (See appendix 7 for corresponding references)

Foods
Ice cream
Frozen, dairy products
Ice cream/frozen yogurt
Frozen yogurt
Ice cream samples from finished products
Ice cream, iced products
Ice cream, mix
Ice cream novelty
Ice milk

Post Retail Growth

Table A5.15.4. Foods Included in Post Retail Growth Data Set (See appendix 8 for corresponding references)

Foods
No growth was modeled for this category.

Table A5.15.5. Consumer Storage Times Used in this Risk Assessment (days)

Minimum	Mode	Maximum
0.5	8 to 10	90 to 180

Figure A5.15.2. Cumulative Distribution for the Exponential Reference Growth Rate (EGR) at 5 ^{0}C

Not applicable – No growth model for this category.

Table A5.15.6. Models Used to Characterize the Cumulative Distribution for Exponential Growth Rates

Not applicable – No growth model for this category.

Table A5.15.7. Mean, Standard Deviation and Number of Samples (N) for Exponential Growth Rate (EGR) at 5 °C

Not applicable – No growth model for this category.

Table A5.15.8. Maximum Growth at Various Temperatures

Temperature (^{0}C)	<5	5-7	>7
Maximum Growth	5	6.5	8

16. Cultured Milk Products Food Categories

Consumption

Table A5.16.1. Foods Included in Consumption Data Set

Food Code	Food
11115000	Buttermilk, fluid, nonfat
11115200	Buttermilk, fluid, 2% fat
11410000	Yogurt, not specified as to type of milk or flavor
11411010	Yogurt, plain, not specified as to type of milk
11411100	Yogurt, plain, whole milk
11411200	Yogurt, plain, lowfat milk
11411300	Yogurt, plain, nonfat milk
11420000	Yogurt, vanilla, lemon, or coffee flavor, not specified as to type of milk
11421000	Yogurt, vanilla, lemon, or coffee flavor, whole milk
11422000	Yogurt, vanilla, lemon, maple, or coffee flavor, lowfat milk
11423000	Yogurt, vanilla, lemon, maple, or coffee flavor, nonfat milk
11424000	Yogurt, vanilla, lemon, maple, or coffee flavor, nonfat milk, sweetened with low calories
11425000	Yogurt, chocolate, not specified as to type of milk
11427000	Yogurt, chocolate, nonfat milk
11430000	Yogurt, fruit variety, not specified as to type of milk
11431000	Yogurt, fruit variety, whole milk
11432000	Yogurt, fruit variety, lowfat milk
11433000	Yogurt, fruit variety, nonfat milk
11433500	Yogurt, fruit variety, nonfat milk, sweetened with low calorie sweetener
12310100	Sour cream
12310200	Sour cream, half and half
12310300	Sour cream, reduced fat
12310350	Sour cream, light
12310370	Sour cream, fat free
12320200	Sour cream, filled, sour dressing, non-butterfat
12350000	Dip, sour cream base
12350020	Dip, sour cream base, reduced calorie
12350100	Spinach dip, sour cream base

Source Survey: **CSFII**

Figure A5.16.1. Cumulative Distribution for the Serving Size

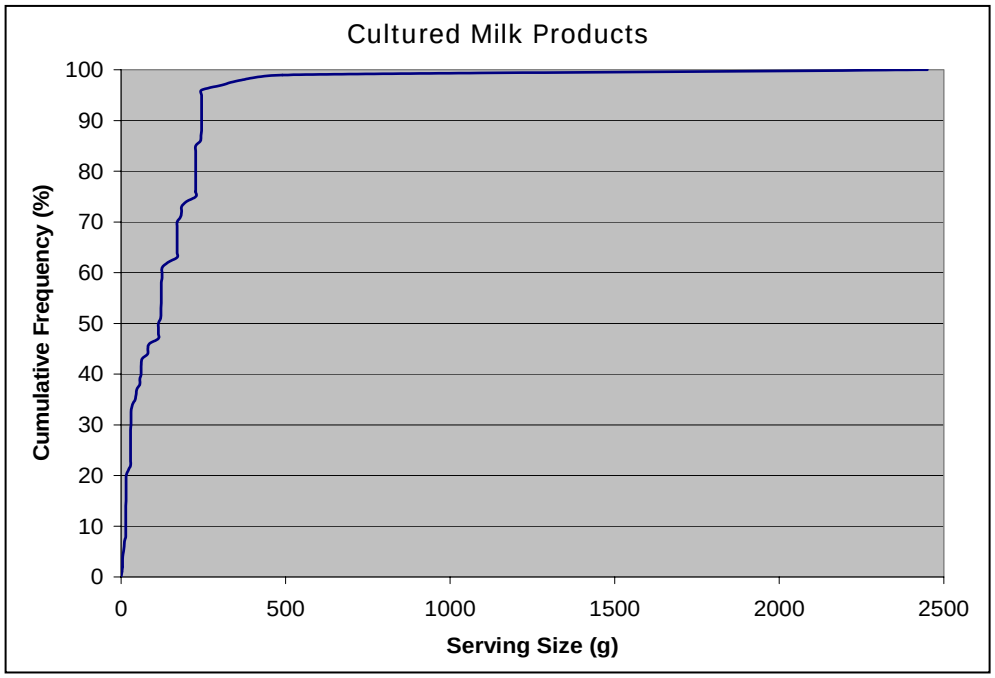

Table A5.16.2. Frequency Distribution of Amount Consumed per Serving

Percentile (grams per serving)			
50th	75th	95th	99th
114	227	245	490

Contamination at Retail

Table A5.16.3. Foods Included in Contamination Level Data Set (See appendix 7 for corresponding references)

Foods
Yogurt
Buttermilk
Sour cream

Post Retail Growth

Table A5.16.4. Growth Rate (See appendix 8 for corresponding references)

Foods
Buttermilk
Yogurt

Table A5.16.5. Consumer Storage Times Used in this Risk Assessment (days)

Minimum	Mode	Maximum
0.5	6 to 10	15 to 45

Figure A5.16.2. Cumulative Distribution for the Exponential Reference Growth Rate (EGR) at 5 ^{0}C

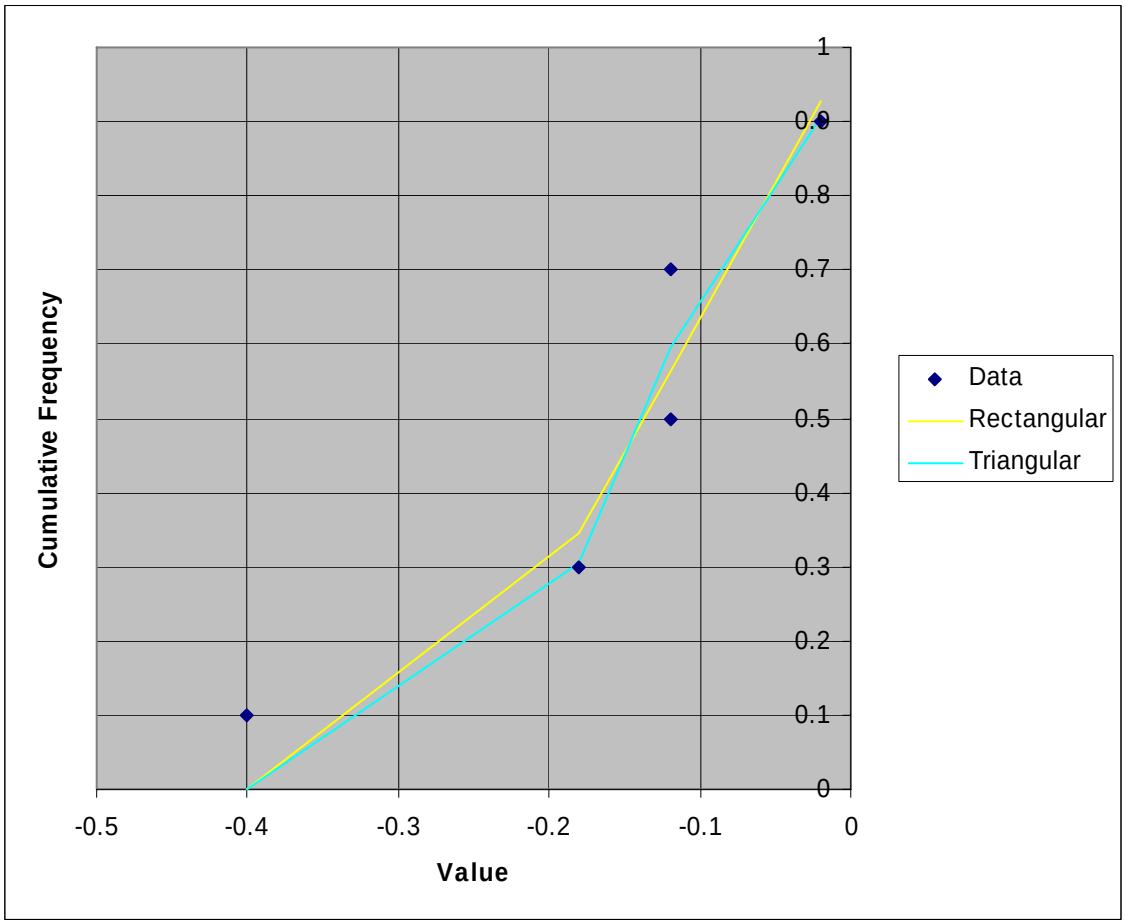

Table A5.16.6. Models Used to Characterize the Cumulative Distribution for Exponential Growth Rates

Model	Parameter 1	Parameter 2	Parameter 3	RSQ	Probability
Rectangular	-0.275	-2×10^{-9}		0.035	0.63
Triangular	-0.290	-0.180	0.072379	0.030	0.37

See Appendix 6: Software for a description of the common names used for the parameters for these statistical distributions (models).

Table A5.16.7. Mean, Standard Deviation and Number of Samples (N) for Exponential Growth Rate (EGR) at 5 °C

Mean (log_{10} cfu/g/day)	Std. Dev.	N
-0.168	0.1432	5

Table A5.16.8. Maximum Growth at Various Temperatures

Temperature (°C)	<5	5-7	>7
Maximum Growth ($\log_{10}$ cfu/g)	5	6.5	8

17. High Fat and Other Dairy Products Food Category

Consumption

Table A5.17.1. Foods Included in Consumption Data Set

Food Code	Food
11512000	Cocoa, hot chocolate, not from dry mix, made with whole milk
11512500	Spanish-style hot chocolate drink, Puerto Rican style, made with evaporated milk
11513000	Cocoa and sugar mixture, milk added, not specified as to type of milk
11513100	Cocoa and sugar mixture, whole milk added
11513200	Cocoa and sugar mixture, lowfat milk added
11513300	Cocoa and sugar mixture, skim milk added
11513400	Chocolate syrup, milk added, not specified as to type of milk
11513500	Chocolate syrup, whole milk added
11513600	Chocolate syrup, lowfat milk added
11513700	Chocolate syrup, skim milk added
11516000	Cocoa, whey, and low-calorie sweetener mixture, lowfat milk added
11519000	Milk beverage, made with whole milk, flavors other than chocolate
11520000	Milk, malted, unfortified, not specified as to flavor, made with milk
11525000	Milk, malted, fortified, natural flavor, made with milk
11526000	Milk, malted, fortified, chocolate, made with milk
11527000	Milk, malted, fortified, not specified as to flavor, made with milk
11531000	Eggnog, made with whole milk
11541000	Milk shake, not specified as to flavor or type
11541110	Milk shake, homemade or fountain-type, chocolate
11541120	Milk shake, homemade or fountain-type, flavors other than chocolate
11541400	Milk shake with malt
11541500	Milk shake, made with skim milk, chocolate
11541510	Milk shake, made with skim milk, flavors other than chocolate
11542100	Carry-out milk shake, chocolate
11542200	Carry-out milk shake, flavors other than chocolate
11551050	Milk fruit drink
11552200	Milk-based fruit drink
11560000	Chocolate-flavored drink, whey and milk-based
11560020	Flavored milk drink, whey and milk-based, flavors other than chocolate
12100100	Cream, not specified as to light, heavy, or half and half
12110100	Cream, light, fluid
12110300	Cream, light, whipped, unsweetened
12120100	Cream, half and half
12130100	Cream, heavy, fluid
12140000	Cream, heavy, whipped, sweetened
14620100	Dip, cream cheese base
14620120	Shrimp dip, cream cheese base
14620150	Dip, cheese with chili pepper (chili con queso)

14620200	Dip, cheese base other than cream cheese
81100500	Butter, not further specified
81101000	Butter, stick, salted
81101010	Butter, whipped, tub, salted
81101020	Butter, whipped, stick, salted
81101100	Butter, stick, unsalted
81101110	Butter, whipped, tub, unsalted
81101500	Light butter, stick, salted
81101510	Light butter, stick, unsalted
81101520	Light butter, whipped, tub, salted
81104500	Vegetable oil-butter spread, stick, salted
81104510	Vegetable oil-butter spread, tub, salted
81104550	Vegetable oil-butter spread, reduced calorie, stick, salted
81104560	Vegetable oil-butter spread, reduced calorie, tub, salted
81105010	Butter-margarine blend, stick, salted
81105020	Butter-margarine blend, tub, salted
81105030	Butter-margarine blend, stick, unsalted
81105500	Butter-vegetable oil blend

Source Survey: CSFII

Figure A5.17.1. Cumulative Distribut ion for the Serving Size

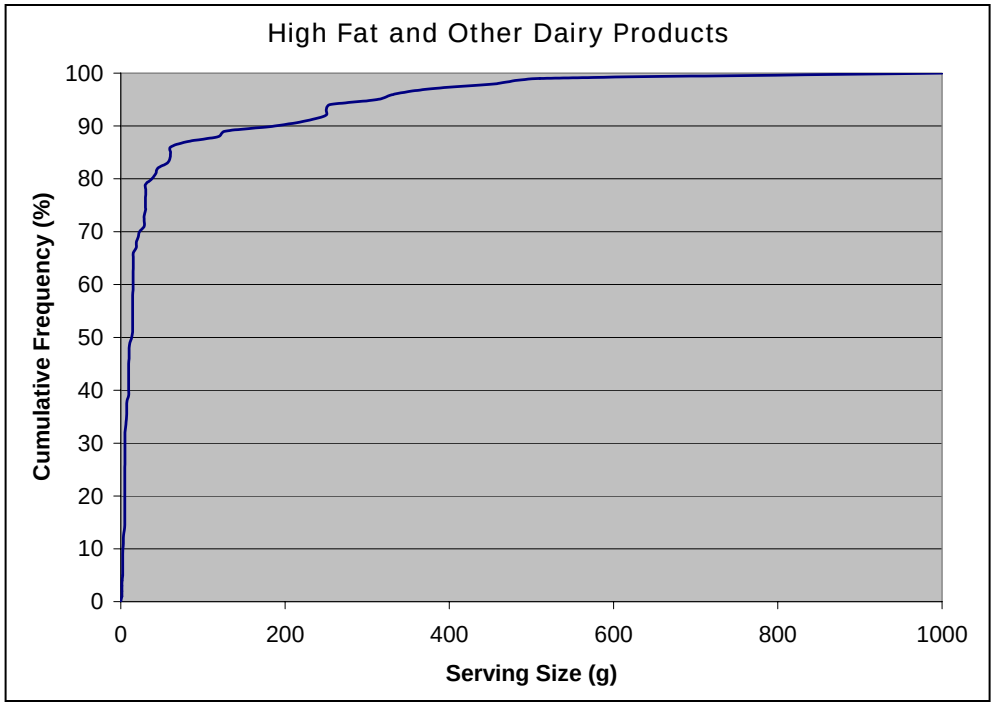

Table A5.17.2 Frequency Distribution of Amount Consumed per Serving

Percentiles (grams per serving)			
50th	75th	95th	99th
13	30	312	510

Contamination at Retail

Table A5.17.3. Foods Included in Contamination Level Data Set (See appendix 7 for corresponding references)

Foods
Butter
Chocolate pudding
Cream
Cream half&half
Cream, pasteurized
Dairy products
Egg nog
Half and half
Milk shake
Whipping cream

Post Retail Growth

Table A5.17.4. Foods Included in Post Retail Growth Data Set (See appendix 8 for corresponding references)

Foods
Cream
Butter
Sweetened condensed milk
Evaporated milk

Table A5.17.5. Consumer Storage Times Used in this Risk Assessment (days)

Minimum	Mode	Maximum
0.5	6 to 10	15 to 45

Figure A5.17.2. Cumulative Distribution for the Exponential Reference Growth Rate (EGR) at 5 ^{0}C

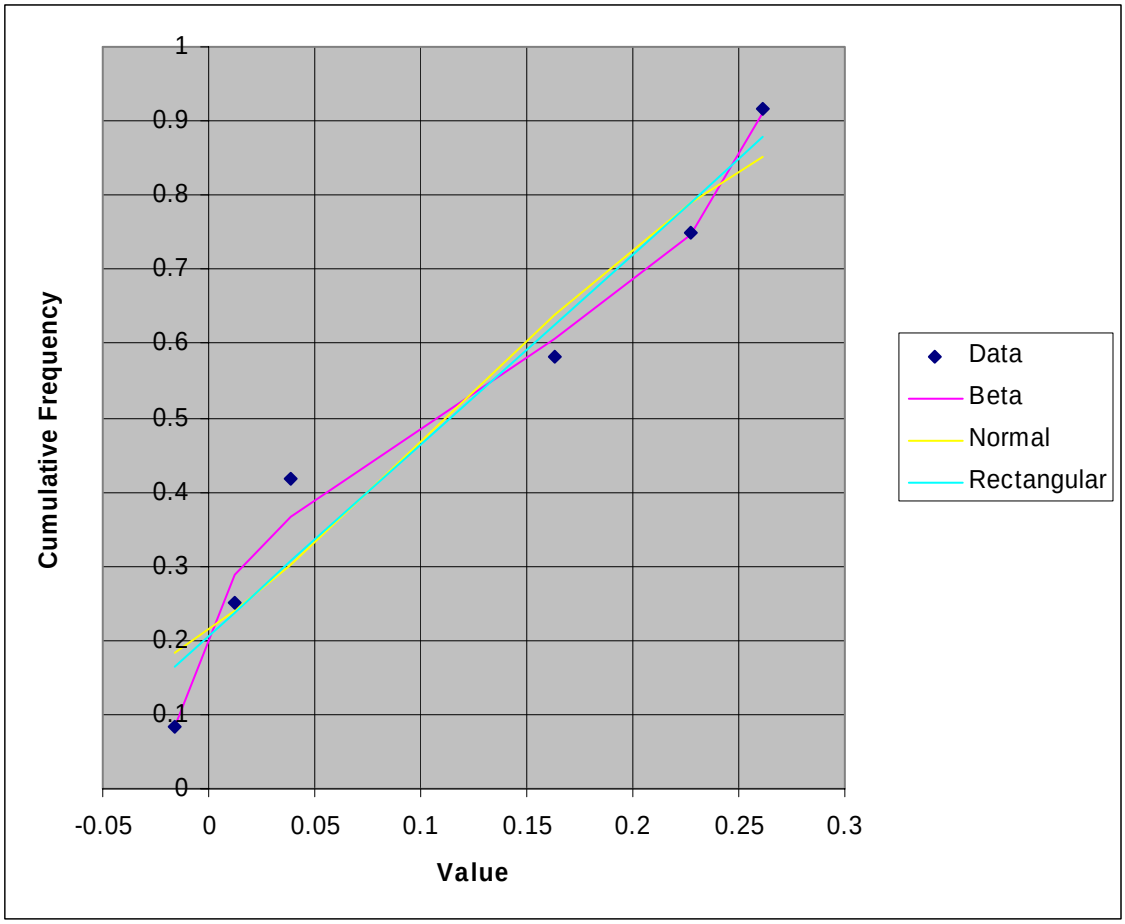

Table A5.17.6. Models Used to Characterize the Cumulative Distribution for the Exponential Growth Rate

Model	Parameter 1	Parameter 2	Parameter 3	Parameter 4	RSQ	Probability
Beta	0.339278	0.3841	-0.01676	0.26361	0.005	0.65
Rectangular	-0.07984	0.308504			0.024	0.33
Normal	0.112672	0.142126			0.032	0.03

See Appendix 6: Software for a description of the common names used for the parameters for these statistical distributions (models).

Table A5.17.7. Mean, Standard Deviation and Number of Samples (N) for Exponential Growth Rate (EGR) at 5 °C

Mean (log_{10} cfu/g/day)	Std. Dev.	N
0.114	0.118	6

Table A5.17.8. Maximum Growth at Various Temperatures

Temperature (°C)	<5	5-7	>7
Maximum Growth (log_{10} cfu/g)	5	6.5	8

18. Frankfurters – Reheated Food Category

Consumption

Table A5.18.1. Foods Included in Consumption Data Set

Food Code	Food
25210110	Frankfurter, wiener, or hot dog, not further specified
25210150	Frankfurter or hot dog, cheese-filled
25210210	Frankfurter or hot dog, beef
25210220	Frankfurter or hot dog, beef and pork
25210230	Frankfurter or hot dog, beef and pork, lowfat
25210250	Frankfurter or hot dog, meat and poultry, fat free
25210280	Frankfurter or hot dog, meat and poultry
25210310	Frankfurter or hot dog, chicken
25210410	Frankfurter or hot dog, turkey
25210510	Frankfurter or hot dog, low salt
25210610	Frankfurter or hot dog, beef, lowfat
25210700	Frankfurter or hot dog, meat and poultry, lowfat
27120210	Frankfurter or hot dog, with chili, no bun
27120250	Frankfurter or hot dog with tomato-based sauce (mixture)
27560300	Corn dog (frankfurter or hot dog with cornbread coating)
27560320	Frankfurter or hot dog, plain, on bun
27560330	Frankfurter or hot dog, with cheese, plain, on bun
27560340	Frankfurter or hot dog, with catsup and/or mustard, on bun
27560350	Pig in a blanket (frankfurter or hot dog wrapped in dough)
27560360	Frankfurter or hot dog, with chili, on bun
27560370	Frankfurter or hot dog with chili and cheese, on bun

Source Survey: CSFII

Figure A5.18.1. Cumulative Distribution for the Serving Size

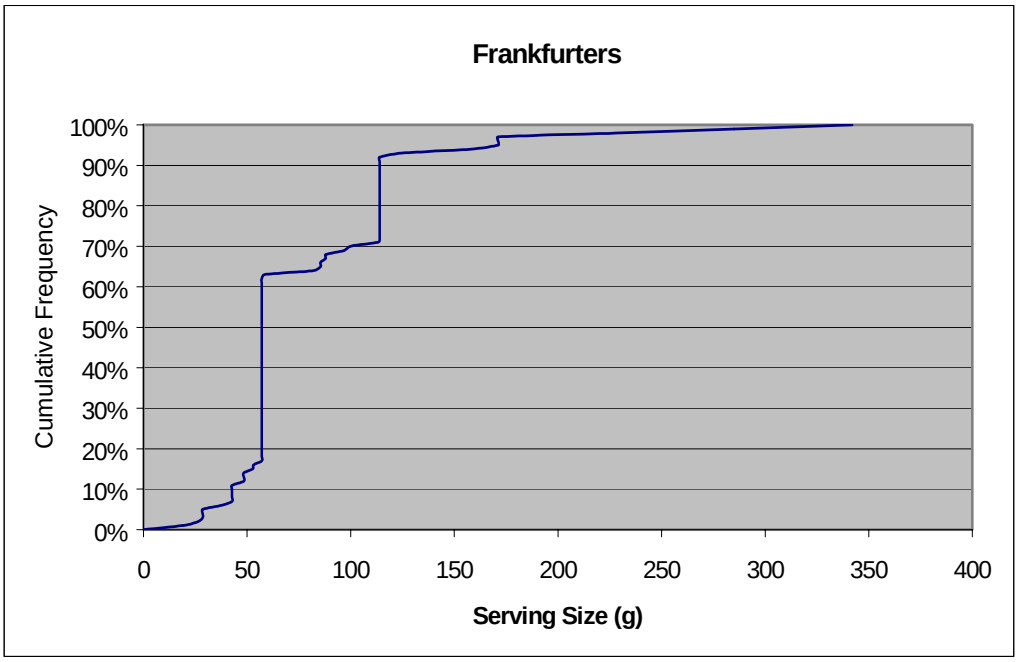

Table A5.18.2. Frequency Distribution of Amount Consumed per Serving

Percentiles (grams per serving)			
50th	75th	95th	99th
57	114	171	285

Contamination at Retail

Table A5.18.3. Foods Included in Contamination Level Data Set (See appendix 7 for corresponding references)

Foods
Hot dogs
Hot dogs, beef
Frankfurter, sausage type
Hot dogs, chicken/pork
Hot dogs, turkey

Post Retail Growth

Table A5.18.4. Foods Included in Post Retail Growth Data Set (See appendix 8 for corresponding references)

Foods
Frankfurters
Hot dog, poultry
Hot dog, turkey
Hot dog, pork

Table A5. 18.5. Consumer Storage Times Used in this Risk Assessment (days)

Storage times were modeled using AMI survey data – see Chapter III. Exposure Assessment, section "Modeling: Growth Between Retail and Consumption" for details. See Figure III-7.

Figure A5.18.2. Cumulative Distribution for the Exponential Reference Growth Rate (EGR) at 5°C

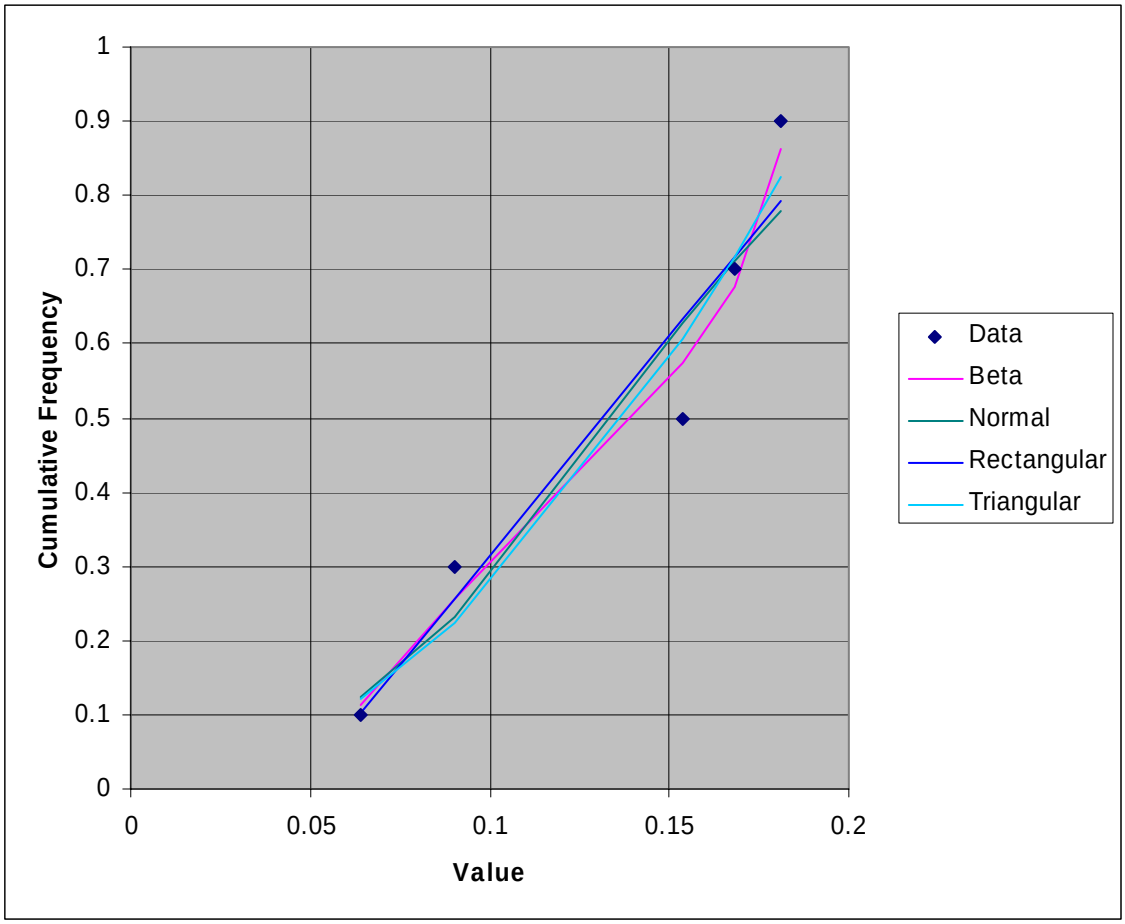

Table A5.18.6. Models Used to Characterize the Cumulative Exponential Growth Rate

Model	Parameter 1	Parameter 2	Parameter 3	Parameter 4	RSQ	Probability
Beta	0.590786	0.39764	0.054009	0.18281	0.010	0.59
Rectangular	0.046727	0.216073			0.032	0.20
Triangular	-8.75×10^{-3}	0.181	0.22089		0.024	0.17
Normal	0.134343	0.060556			0.036	0.03

See Appendix 6: Software for a description of the common names used for the parameters for these statistical distributions (models).

Table A5.18.7. Mean, Standard Deviation and Number of Samples (N) for Exponential Growth Rate (EGR) at 5 °C

Mean (log_{10} cfu/g/day)	Std. Dev.	N
0.131	0.051	5

Table A5.18.8. Maximum Growth at Various Temperatures

Temperature (^{0}C)	<5	5-7	>7
Maximum Growth ($\log_{10}$ cfu/g)	5	6.5	8

19. Frankfurters – Not Reheated Food Category

Consumption

Table A5.19.1. Foods Included in Consumption Data Set

The foods included in the consumption data set for Frankfurters – Reheated were used, see Table A5.18.1

Figure A5.19.1. Cumulative Distribution for Serving Size

The cumulative distribution for Frankfurters – Reheated was used, see Figure A5.18.1

Table A5.19.2. Frequency Distribution of Amount Consumed per Serving

The frequency distribution of amount consumed per serving for Frankfurters – Reheated was used, see Table A5.18.2

Contamination at Retail

Table A5.19.3. Foods Included in Contamination Level Data Set (See appendix 7 for corresponding references)

The foods included in the contamination level data set for Frankfurters – Reheated were used, see Table A5.18.3

Post Retail Growth

Table A5.19.4. Foods Included in Post Retail Growth Data Set

The foods included in the post retail growth data set for Frankfurters – Reheated were used, see Table A5.18.4

Table A5.19.5. Consumer Storage Times Used in this Risk Assessment (days)

Storage times were modeled using AMI survey data – see section Chapter III. Exposure Assessment, section “Modeling: Growth Between Retail and Consumption” for details. (Figure III-7)

Figure A5.19.2. Cumulative Distribution for the Exponential Reference Growth Rate (EGR) at 5°C

The cumulative distribution for the exponential reference growth rate (EGR) at 5°C for Frankfurters – Reheated was used, see Figure A5.18.2

Table A5.19.6. Models Used to Characterize the Cumulative Exponential Growth Rate

The models used to characterize the cumulative exponential growth rate for Frankfurters – Reheated were used, see Table A5.18.6

See Appendix 6: Software for a description of the common names used for the parameters for these statistical distributions (models).

Table A5.19.7. Mean, Standard Deviation and Number of Samples (N) for Exponential Growth Rate (EGR) at 5 °C

The mean, standard deviation and number of samples (N) for exponential growth rate (EGR) at 5 °C for Frankfurters – Reheated were used, see Table A5.18.7

Table A5.19.8. Maximum Growth at Various Temperatures

The maximum growth at various temperatures for Frankfurters – Reheated were used, see Table A5.18.8

20. Dry/Semi-Dry Fermented Sausages Food Category

Consumption

Table A5.20.1. Foods Included in Consumption Data Set

Food Code	Food
25220120	Beef sausage, smoked, stick
25220420	Bologna, Lebanon
25221250	Pepperoni
25221500	Salami, not further specified
25221520	Salami, dry or hard
25221530	Salami, beef
25221810	Thuringer
Source Survey:	**CSFII**

Figure A5.20.1. Cumulative Distribution For the Serving Size

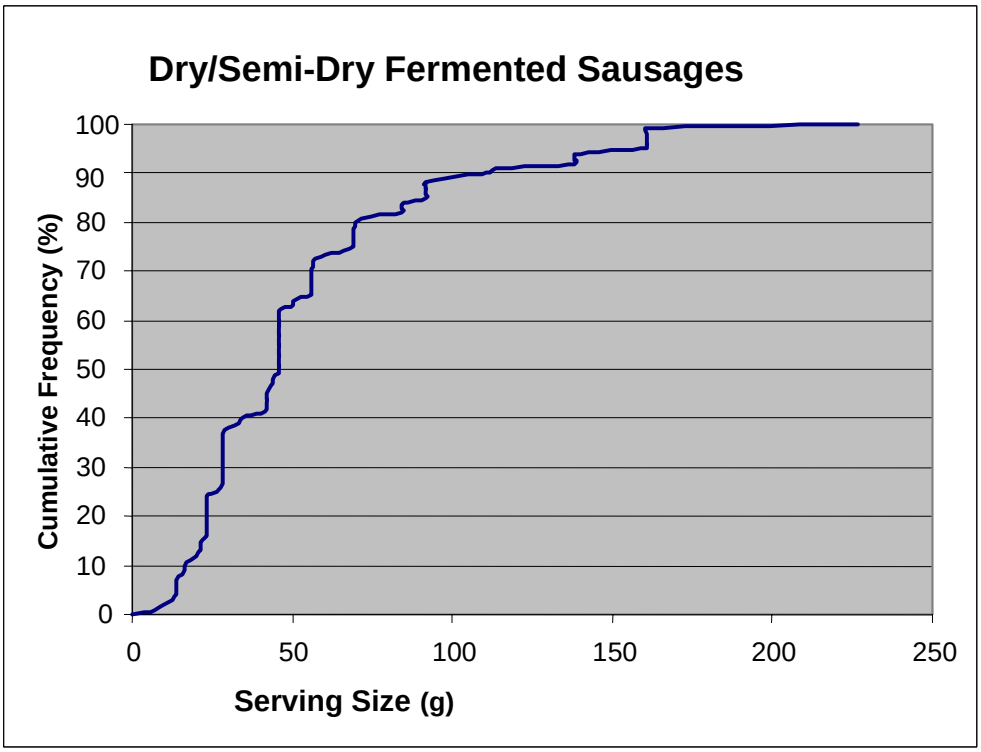

Table A5.20.2. Frequency Distribution of Amount Consumed per Serving

Percentiles (grams per serving)			
50th	75th	95th	99th
46	69	161	161

Contamination at Retail

Table A5.20.3. Foods Included in Contamination Level Data Set (See appendix 7 for corresponding references)

Foods
Beef, salami, and mettwurst
Salami
Salami and pork
Sausage
Sausage, smoked
Sausage, cooked, cured
Sausage, fermented
Cured chorizo
Beef stick
Pepperoni/sausage, fermented
Sausage, dried

Post Retail Growth

Table A5.20.4. Foods Included in Post Retail Growth Data Set (See appendix 8 for corresponding references)

Foods
Summer sausage
Fermented sausage
German-style American Italian sausage
Norwegian fermented dry sausage

Table A5.20.5. Consumer Storage Times Used in this Risk Assessment (days)

Minimum	Mode	Maximum
0.5	6 to 10	45 to 90

Figure A5.20.2. Cumulative Distribution for the Exponential Reference Growth Rate (EGR) at 5°C

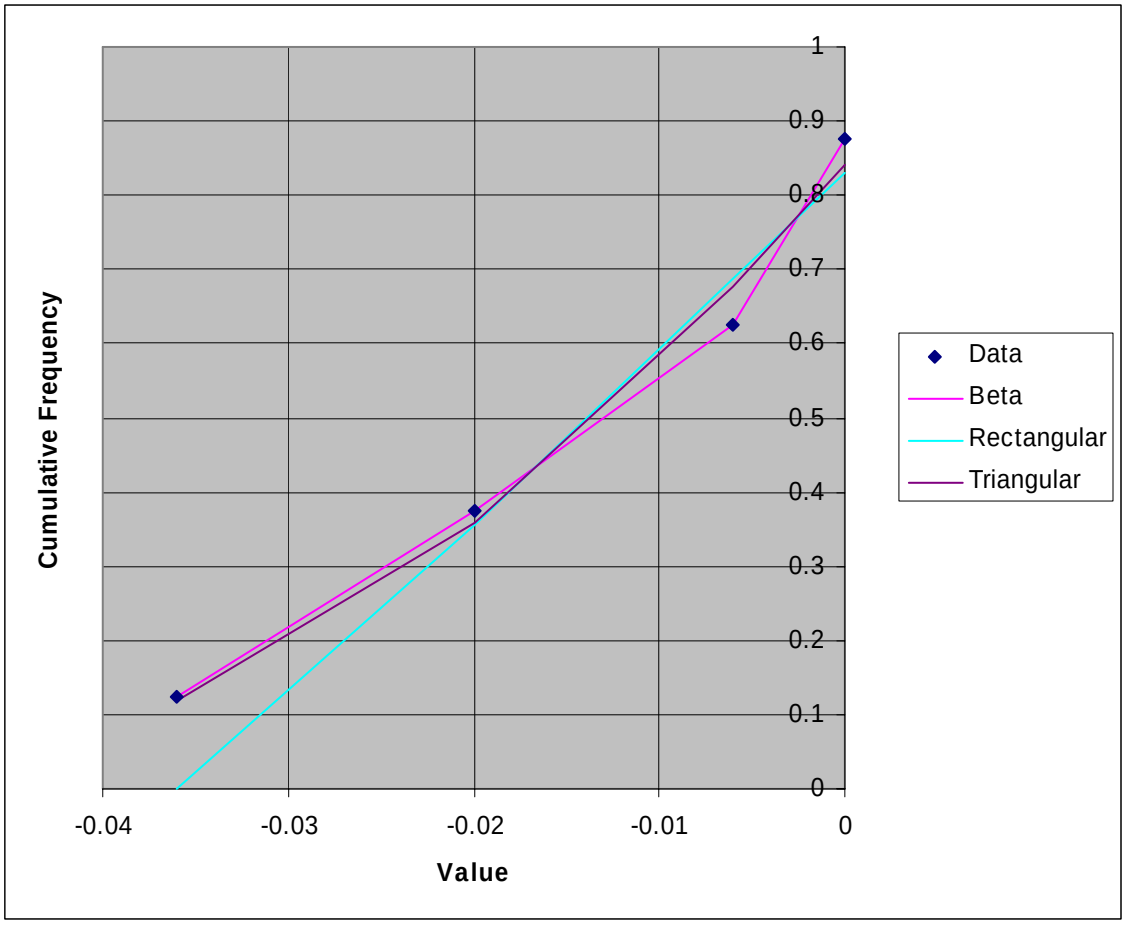

Table A5.20.6. Models Used to Characterize the Cumulative Exponential Growth Rate

Model	Parameter 1	Parameter 2	Parameter 3	Parameter 4	RSQ	Probability
Triangular	-5.78×10^{-2}	1.23×10^{-4}	0.010738		0.004	0.48
Beta	0.608426	0.397069	-0.04	0.000422	< 0.001	0.38
Rectangular	-0.035	0.007133			0.022	0.19

See Appendix 6: Software for a description of the common names used for the parameters for these statistical distributions (models).

Table A5.20.7. Mean, Standard Deviation and Number of Samples (N) for Exponential Growth Rate (EGR) at 5 °C

Mean ($\log_{10}$ cfu/g/day)	Std. Dev.	N
-0.016	0.016	4

Table A5.20.8. Maximum Growth at Various Temperatures

Temperature (^{0}C)	<5	5-7	>7
Maximum Growth ($\log_{10}$ cfu/g)	5	6.5	8

21. Deli Meats Food Category

Consumption

Table A5.21.1. Foods Included in Consumption Data Set

Food Code	Food
21002000	Beef, pickled
22311210	Ham, smoked or cured, low sodium, cooked, lean and fat eaten
22311450	Ham, prosciutto
23322100	Deer bologna
25220010	Cold cut, not further specified
25220390	Bologna, beef, lowfat
25220400	Bologna, pork and beef
25220410	Bologna, not further specified
25220430	Bologna, beef
25220440	Bologna, turkey
25220450	Bologna ring, smoked
25220460	Bologna, pork
25220470	Bologna, beef, lower sodium
25220480	Bologna, chicken, beef, and pork
25220500	Bologna, beef and pork, lowfat
25220910	Head cheese
25221210	Mortadella
25221480	Mettwurst
25221710	Souse
25230210	Ham, sliced, prepackaged or deli, luncheon meat
25230220	Ham, sliced, low salt, prepackaged or deli, luncheon meat
25230230	Ham, sliced, extra lean, prepackaged or deli, luncheon meat
25230310	Chicken or turkey loaf, prepackaged or deli, luncheon meat
25230410	Ham loaf, luncheon meat
25230430	Ham and cheese loaf
25230510	Ham, luncheon meat, chopped, minced, pressed, spiced, not canned
25230520	Ham, luncheon meat, chopped, minced, pressed, spiced, lowfat, not canned
25230550	Ham, pork, and chicken, luncheon meat, chopped, minced, pressed, spiced, canned, reduced sodium
25230560	Liverwurst
25230610	Luncheon loaf (olive, pickle, or pimiento)
25230710	Sandwich loaf, luncheon meat
25230790	Turkey ham, sliced, extra lean, prepackaged or deli, luncheon meat
25230800	Turkey ham
25230810	Veal loaf
25230820	Turkey pastrami
25230840	Turkey salami
25230900	Turkey or chicken breast, prepackaged or deli, luncheon meat
25231110	Beef, sliced, prepackaged or deli, luncheon meat
25231150	Corned beef, pressed
27500100	Meat sandwich, not further specified
27510700	Meatball and spaghetti sauce submarine sandwich, on roll
27510950	Reuben sandwich (corned beef sandwich with sauerkraut and cheese), with spread

27513010	Roast beef sandwich
27513040	Roast beef submarine sandwich, on roll, with lettuce, tomato and spread
27513050	Roast beef sandwich with cheese
27513060	Roast beef sandwich with bacon and cheese sauce
27513070	Roast beef submarine sandwich, on roll, au jus
27515000	Steak submarine sandwich, on roll, with lettuce and tomato
27515010	Steak sandwich, plain, on roll
27515020	Steak and cheese submarine sandwich, on roll, with lettuce and tomato
27515030	Steak and cheese sandwich, plain, on roll
27515040	Steak and cheese submarine sandwich, plain, on roll
27515070	Steak and cheese submarine sandwich, with fried peppers and onions, on roll
27515080	Steak sandwich, plain, on biscuit
27515150	Steak patty (breaded, fried) sandwich, with mayonnaise or salad dressing, lettuce, and tomato, on bun
27516010	Gyro sandwich (pita bread, beef, lamb, onion, condiments), with tomato and spread
27520130	Bacon, chicken, and tomato club sandwich, with lettuce and spread
27520160	Bacon, chicken, and tomato club sandwich, on multigrain roll with lettuce and spread
27520250	Ham on biscuit
27520300	Ham sandwich, with spread
27520320	Ham and cheese sandwich, with lettuce and spread
27520360	Ham and cheese sandwich, on bun, with lettuce and spread
27520370	Hot ham and cheese sandwich, on bun
27520380	Ham and cheese on English muffin
27520390	Ham and cheese submarine sandwich, on multigrain roll, with lettuce, tomato and spread
27520500	Pork, barbecue sauce, onions and dill pickles on white roll
27520540	Ham and tomato club sandwich, with lettuce and spread
27540110	Chicken sandwich, with spread
27540130	Chicken barbecue sandwich
27540140	Chicken fillet (breaded, fried) sandwich
27540150	Chicken fillet (breaded, fried) sandwich with lettuce, tomato and spread
27540180	Chicken patty sandwich or biscuit
27540190	Chicken patty sandwich, with lettuce and spread
27540200	Fajita-style chicken sandwich with cheese, on pita bread, with lettuce and tomato
27540230	Chicken patty sandwich with cheese, on wheat bun, with lettuce, tomato and spread
27540240	Chicken fillet, (broiled), sandwich, on whole wheat roll, with lettuce, tomato and spread
27540260	Chicken fillet, broiled, sandwich, on oat bran bun, with lettuce, tomato and spread
27540270	Chicken fillet, broiled, sandwich, with lettuce, tomato and non-mayonnaise type spread
27540280	Chicken fillet, broiled, sandwich with cheese, on bun, with lettuce, tomato and spread
27540310	Turkey sandwich, with spread
27540350	Turkey submarine sandwich, on roll, with cheese, lettuce, tomato and spread
27560110	Bologna sandwich, with spread
27560120	Bologna and cheese sandwich, with spread
27560910	Submarine, cold cut sandwich, on bun, with lettuce

Source Survey: **CSFII**

Figure A5.21.1. Cumulative Distribution for the Serving Size

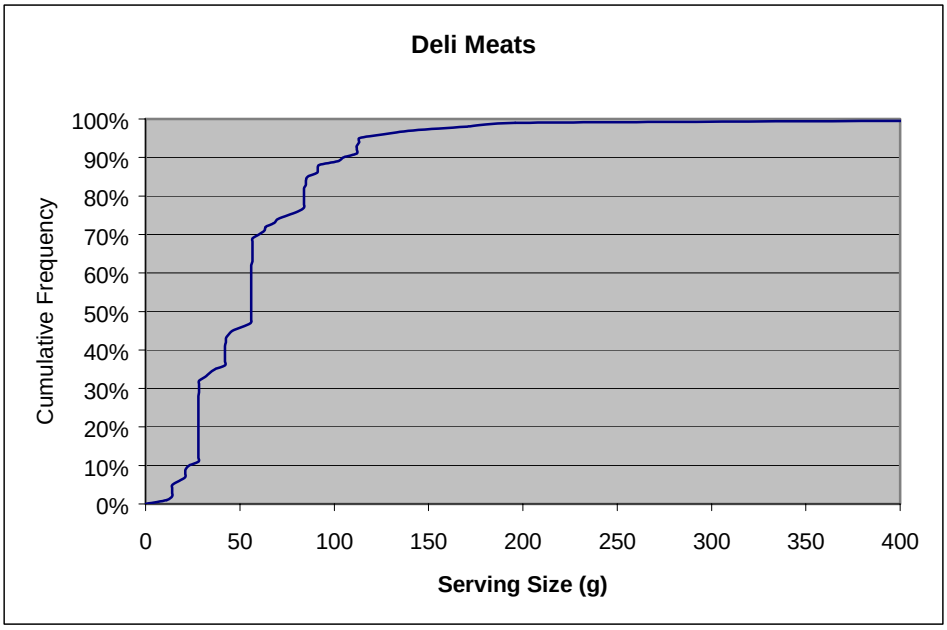

Table A5.21.2. Frequency Distribution of Amount Consumed per Serving

Percentiles (grams per serving)			
50th	**75th**	**95th**	**99th**
56	75	113	196

Contamination at Retail

Table A5.21.3. Foods Included in Contamination Level Data Set (See appendix 7 for corresponding references)

Foods
Bacon
BBQ beef
BBQ chicken
BBQ meat
BBQ pork
Beef, ready-to-eat
Bologna
Chicken breaded
Chicken, ready-to-eat
Cold cuts
Corned beef
Corned beef, roast and cooked
Corned beef, roast cooked
Deli meats
Ham and luncheon meats, sliced
Ham like products
Ham, cooked
Ham, sliced vacuum packed
Ham, cooked, sliced
Ham/salami/bacon/luncheon meat
Ham, sliced/sliced luncheon
Mortadella
Olive loaf
Pariza
Pastrami
Pork
Pork loin
Pork shoulder, sliced vacuum packed
Pork, ready-to-eat
Poultry, cooked
Roast beef
Ready-to-eat broiler products
Ready-to-eat meats
Sausages
Turkey breast sliced
Turkey breast, cooked smoked
Turkey breast, smoked
Turkey cuvette, smoked
Turkey fillet, smoked ready-to-eat
Turkey ham
Turkey parts

Turkey pastrami
Turkey ready-to-eat
Turkey wings
Turkey, cooked smoked diced

Post Retail Growth

Table A5.21.4. Foods Included in Post Retail Growth Data Set (See appendix 8 for corresponding references)

Foods
Beef sirloin
Bologna
Chicken, cooked
Chicken, fillets/breaded
Chicken, homogenate
Chicken, sliced/vacuum packed
Corned beef
Ham, cooked
Ham, cooked and vacuum packed
Ham, vacuum packed
Roast beef
Turkey loaf, cooked, uncured, vacuum packed
Turkey, sliced
Turkey, sliced, vacuum packed

Table A5.21.5. Consumer Storage Times Used in this Risk Assessment (days)

Storage times were modeled using AMI survey data – see section Chapter III. Exposure Assessment, section “Modeling: Growth Between Retail and Consumption” for details. (See Figure III-1)

Figure A5.21.2. Cumulative Distribution for the Exponential Reference Growth Rate (EGR) at 5 °C

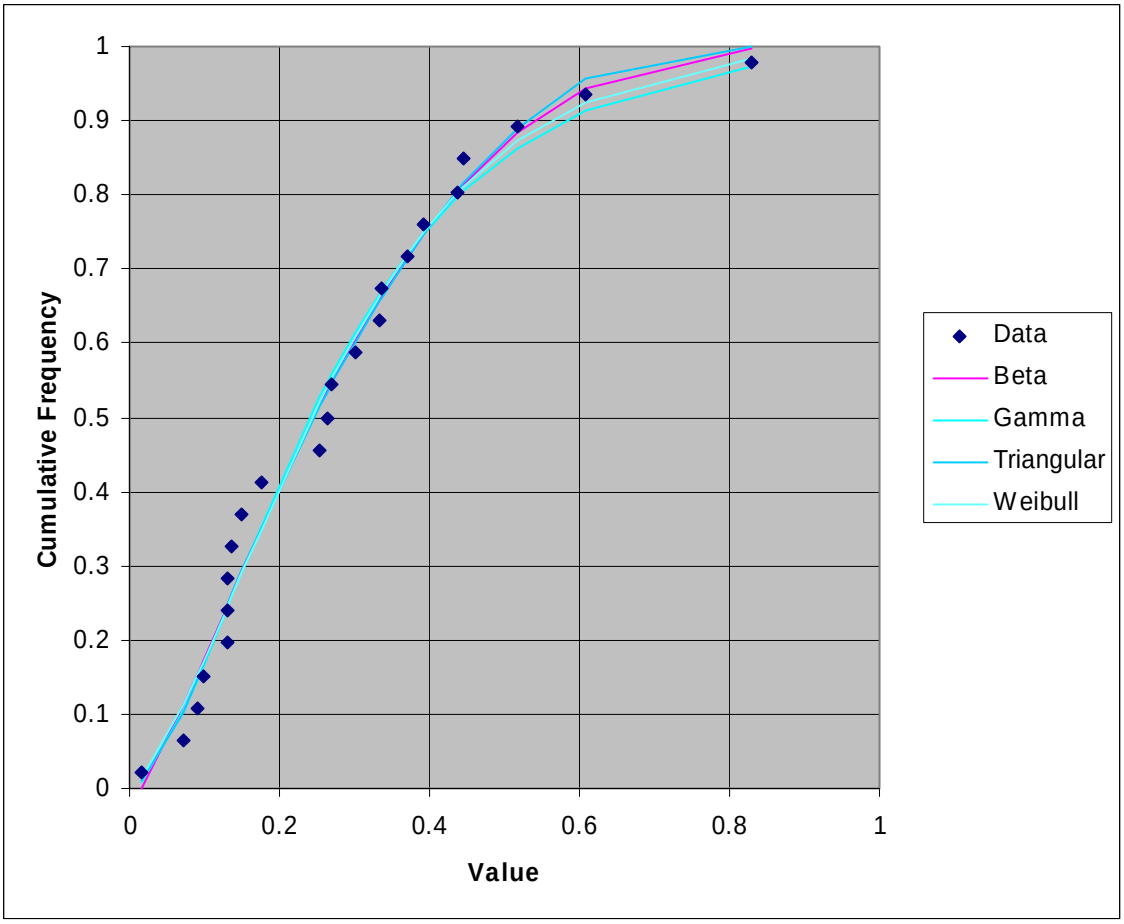

Table A5.21.6. Models Used to Characterize the Cumulative Distribution for Exponential Growth Rates

Model	Parameter 1	Parameter 2	Parameter 3	Parameter 4	RSQ	Probability
Triangular	-0.0113	0.0785	0.755007		0.029	0.42
Weibull	1.45	0.314009			0.033	0.24
Gamma	1.82	0.160235			0.034	0.20
Beta	1.232895	3.038674	0.01584	0.921607	0.031	0.14

See Appendix 6: Software for a description of the common names used for the parameters for these statistical distributions (models).

Table A5.21.7. Mean, Standard Deviation and Number of Samples (N) for Exponential Growth Rate (EGR) at 5 °C

Mean (log_{10} cfu/g/day)	Std. Dev.	N
0.282	0.196	23

NOTE: EGR derived using random sampling of growth data.

Table A5.21.8. Maximum Growth at Various Temperatures

Temperature (°C)	<5	5-7	>7
Maximum Growth ($\log_{10}$ cfu/g)	5	6.5	8

22. Pâté and Meat Spreads Food Category

Consumption

Table A5.22.1. Foods Included in Consumption Data Set

Food Code	Food
25112200	Liver paste or pâté, chicken
25240000	Meat spread or potted meat
25240110	Chicken salad spread
25240210	Ham, deviled or potted
25240220	Ham salad spread
25240310	Roast beef spread
27563010	Meatspread or potted meat sandwich

Source Survey: **CSFII**

Figure A5.22.1. Cumulative Distribution for the Serving Size

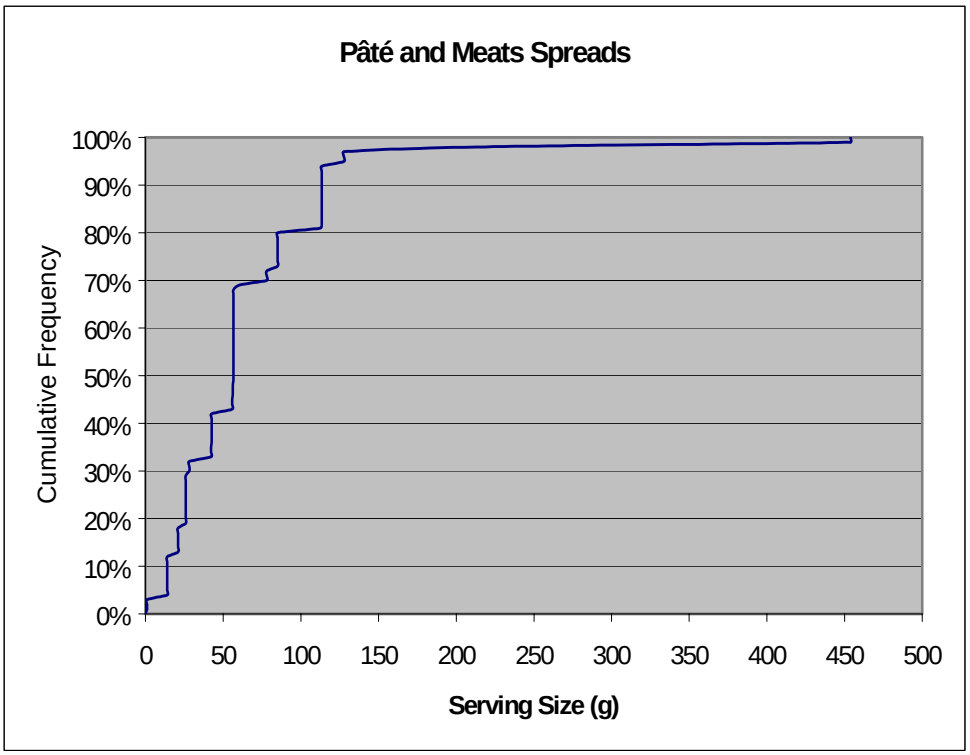

Table A5.22.2. Frequency Distribution of Amount Consumed per Serving

Percentiles (grams per serving)			
50th	75th	95th	99th
57	85	128	454

Contamination at Retail

Table A5.22.3. Foods Included in Contamination Level Data Set (See appendix 7 for corresponding references)

Foods
Aspic mince, prepackaged, cooked
Aspic mince, un-prepackaged, cooked
Ham spread
Meat spreads
Pâté
Pâté mince, prepackaged, cooked
Pâté mince, un-prepackaged, cooked
Pâté, fish & seafood
Pâté, meat-based
Pâté, poultry-based
Pâté, undefined
Salmon pâté
Shrimp pâté
Tuna pâté

Post Retail Growth

Table A5.22.4. Foods Included in Post Retail Growth Data Set (See appendix 8 for corresponding references)

Foods
Pâté

Table A5.22.5. Consumer Storage Times Used in this Risk Assessment (days)

Minimum	Mode	Maximum
0.5	6 to 10	15 to 45

Figure A5.22.2. Cumulative Distribution for the Exponential Reference Growth Rate (EGR) at 5 °C

Since only two data points were available for this group, EGR distributions were not derived by curve-fitting. Instead, a probability tree with two alternate distributions (rectangular and normal) was employed where each distribution was given equal weight.

Table A5.22.6. Models Used to Characterize the Cumulative Distribution for Exponential Growth Rates

Model	Parameter 1	Parameter 2	Probability
Normal	0.25	0.15	0.5
Rectangular	0.143	0.361	0.5

See Appendix 6: Software for a description of the common names used for the parameters for these statistical distributions (models).

Table A5.22.7. Mean, Standard Deviation and Number of Samples (N) for Exponential Growth Rate (EGR) at 5 °C

Mean (log_{10} cfu/g/day)	Std. Dev.	N
0.250	0.156	2

Table A5.22.8. Maximum Growth at Various Temperatures

Temperature (°C)	<5	5-7	>7
Maximum Growth (log_{10} cfu/g)	5	6.5	8

23. Deli-type Salads Food Category

Consumption

Table A5.23.1. Foods Included in Consumption Data Set

Food Code	Food
14610200	Cheese, cottage cheese, with gelatin dessert
14610210	Cheese, cottage cheese, with gelatin dessert and fruit
27416250	Beef salad
27420020	Ham or pork salad
27446200	Chicken or turkey salad
27446220	Chicken or turkey salad with egg
27446300	Chicken or turkey garden salad (chicken and/or turkey, tomato and/or carrots, other vegetables), no dressing
27446310	Chicken or turkey garden salad (chicken and/or turkey, other vegetables excluding tomato and carrots), no dressing
27446350	Oriental chicken or turkey garden salad (chicken and/or turkey, lettuce, fruit, nuts), no dressing
27450010	Crab salad
27450020	Lobster salad
27450030	Salmon salad
27450060	Tuna salad
27450070	Shrimp salad
27450080	Seafood salad
27450090	Tuna salad with cheese
27450100	Tuna salad with egg
27450110	Shrimp garden salad (shrimp, eggs, tomato and/or carrots, other vegetables), no dressing
27450120	Shrimp garden salad (shrimp, eggs, vegetables excluding tomato and carrots), no dressing
27450130	Crab salad made with imitation crab
27450180	Seafood garden salad with seafood, vegetables excluding tomato and carrots, no dressing
27450190	Seafood garden salad with seafood, tomato and/or carrots, other vegetables, no dressing
27460490	Julienne salad (meat, cheese, eggs, vegetables), no dressing
27460510	Antipasto with ham, fish, cheese, vegetables
27520340	Ham salad sandwich
27540120	Chicken salad or chicken spread sandwich
27540320	Turkey salad or turkey spread sandwich
27550710	Tuna salad sandwich, with lettuce
27550720	Tuna salad sandwich
27550750	Tuna salad submarine sandwich, on roll, with lettuce
32103000	Egg salad
32203010	Egg salad sandwich

41203020	Kidney bean salad
41205070	Hummus
58101930	Taco or tostada salad with beef and cheese, fried flour tortilla
58101940	Taco or tostada salad, meatless, with cheese, fried flour tortilla
58148110	Macaroni salad
58148120	Macaroni salad with egg
58148130	Macaroni salad with tuna
58148140	Macaroni salad with crab meat
58148150	Macaroni salad with shrimp
58148160	Macaroni salad with tuna and egg
58148170	Macaroni salad with chicken
58148180	Macaroni salad with cheese
58148500	Pasta salad (macaroni or noodles, vegetables, dressing)
58148550	Pasta salad with meat (macaroni or noodles, vegetables, meat, dressing)
63301010	Ambrosia
63307010	Cranberry-orange relish, uncooked
63401010	Apple salad with dressing
63401020	Apple and cabbage salad with dressing
63402950	Fruit salad (excluding citrus fruits) with salad dressing or mayonnaise
63402960	Fruit salad (excluding citrus fruits) with cream
63402970	Fruit salad (excluding citrus fruits) with cream substitute
63402980	Fruit salad (excluding citrus fruits) with marshmallows
63403000	Fruit salad (excluding citrus fruits) with pudding
63403010	Fruit salad (including citrus fruits) with salad dressing or mayonnaise
63403020	Fruit salad (including citrus fruit) with cream
63403030	Fruit salad (including citrus fruits) with cream substitute
63403040	Fruit salad (including citrus fruits) with marshmallows
63403100	Fruit dessert with cream and/or pudding and nuts
63408010	Guacamole with tomatoes
63408200	Guacamole with tomatoes and chili peppers
63409010	Guacamole, not further specified
63411010	Cranberry salad, congealed
63412010	Pear salad with dressing
63413020	Pineapple salad with cream cheese
71601010	Potato salad with egg
71602010	Potato salad, German style
71603010	Potato salad
72116140	Caesar salad (with romaine)
73101110	Carrots, raw, salad
73101210	Carrots, raw, salad with apples
74506000	Tomato and cucumber salad made with tomato, cucumber, oil, and vinegar
75140500	Broccoli salad with cauliflower, cheese, bacon bits, and dressing
75141000	Cabbage salad or coleslaw, with dressing
75141100	Cabbage salad or coleslaw with apples and/or raisins, with dressing
75141200	Cabbage salad or coleslaw with pineapple, with dressing
75142500	Cucumber salad with creamy dressing

75142550	Cucumber salad made with cucumber, oil, and vinegar
75142600	Cucumber salad made with cucumber and vinegar
75144100	Lettuce, wilted, with bacon dressing
75145000	Seven layer salad (lettuce salad made with a combination of onion, celery, green pepper, peas, mayonnaise, cheese, eggs)
75146000	Greek Salad
75201030	Artichoke salad in oil
75302080	Bean salad, yellow and/or green string beans
75416500	Pea salad
75416600	Pea salad with cheese
91501020	Gelatin dessert with fruit
91501040	Gelatin dessert with fruit and whipped cream
91501080	Gelatin dessert with fruit and cream cheese
91501090	Gelatin dessert with fruit, vegetable, and nuts
91501100	Gelatin salad with vegetables
91511020	Gelatin dessert, dietetic, with fruit, sweetened with low calorie sweetener
91511090	Gelatin dessert, dietetic, with fruit and vegetable(s), sweetened with low calorie sweetener
91511100	Gelatin salad, dietetic, with vegetables, sweetened with low calorie sweetener
91511110	Gelatin dessert, dietetic, with fruit and whipped topping, sweetened with low calorie sweetener

Source Survey: **CSFII**

Figure A5.23.1. Cumulative Distribution for the Serving Size

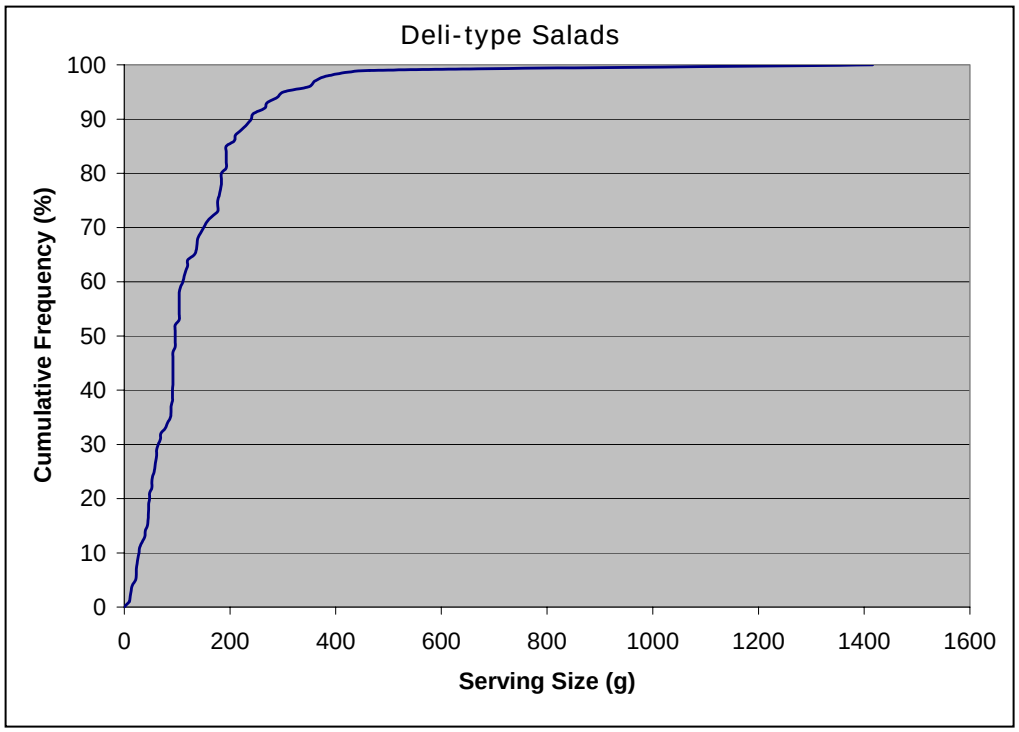

Table A5.23.2. Frequency Distribution of Amount Consumed per Serving

Percentiles (grams per serving)			
50th	75th	95th	99th
97	177	301	464

Contamination at Retail

Table A5.23.3. Foods Included in Contamination Level Data Set (See appendix 7 for corresponding references)

Foods
Antipasto
Broccoli and cheese salad
Caesar
Chef
Chicken salad
Cole slaw
Crab salad
Creamy fruit
Deli Salads
Deli, mayonnaise
Egg salad
Egg/egg mayonnaise salad
Delicatessen salads, unspecified
Fish & shrimp salad
Fish marinate and seafood salad
Fish salad
Fruit/nut salad
Greek salad
Ham salad
Macaroni salad with cheese
Meat & egg salad
Meat salad
Other salad (veg) with mayonnaise
Pasta salad
Pea salad
Salad, potato
Salads (2 egg, 2 cheese,1 dressing)
Salads, seafood
Salmon salad
Shrimp salad
Tortellini salad
Tuna salad
Turkey salad
Various meat and poultry salads

Post Retail Growth

Table A5.23.4. Foods Included in Post Retail Growth Data Set (See appendix 8 for corresponding references)

Foods
Crab salad, store prepared
Shrimp salad, store prepared
Shrimp salad, plant prepared
Chicken salad, store prepared
Chicken salad, plant prepared
Potato salad, store prepared
Potato salad, plant prepared
Cole slaw, store prepared
Cole slaw, plant prepared
Egg salad, store prepared
Tuna salad, store prepared
Ham salad, store prepared
Imitation crab salad, store prepared
Chicken salad, high pH
Chicken salad, low pH
Potato salad, high pH
Potato salad, low pH
Pasta salad, high pH
Pasta salad, low pH
Seafood salad, high pH
Seafood salad, low pH

Table A5.23.5. Consumer Storage Times Used in this Risk Assessment (days)

Minimum	Mode	Maximum
0.5	3 to 4	8 to 12

Figure A5.23.2. Cumulative Distribution for the Exponential Reference Growth Rate (EGR) at 5 °C – Low Growth Salads

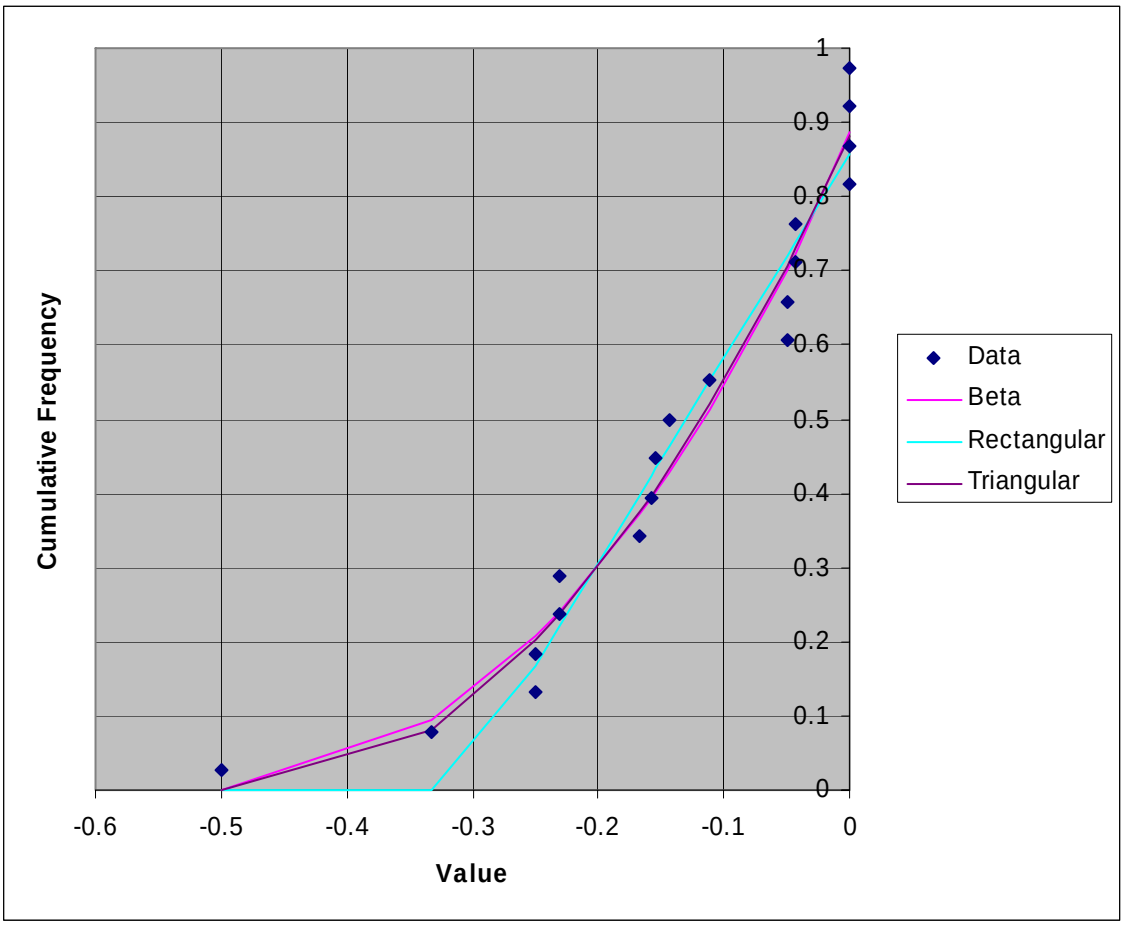

Table A5.23.6. Models Used to Characterize the Cumulative Distribution for Exponential Growth Rates– Low Growth Deli Salads

Model	Parameter 1	Parameter 2	Parameter 3	Parameter 4	RSQ	Probability
Triangular	-0.479	2.60×10^{-3}	0.061947		0.046	0.45
Rectangular	-0.31072	0.051316			0.057	0.34
Beta	1.990244	0.897964	-0.505	0.023533	0.046	0.21

See Appendix 6: Software for a description of the common names used for the parameters for these statistical distributions (models).

Figure A5.23.3. Cumulative Distribution for the Exponential Reference Growth Rate (EGR) at 5 °C – High Growth Salads

Since only two data points were available for this group, EGR distributions were not derived by curve-fitting. Instead, a probability tree with two alternate distributions (rectangular and normal) was employed where each distribution was given equal weight.

Table A5.23.7. Models Used to Characterize the Cumulative Distribution for Exponential Growth Rates – High Growth Deli Salads

Model	Parameter 1	Parameter 2	Parameter 3	Parameter 4	Probability
Rectangular	0.100	0.143			0.5
Normal	0.122	0.030406			0.5

Table A5.23.8. Mean, Standard Deviation and Number of Samples (N) for Exponential Growth Rate (EGR) at 5 °C

	Mean (log_{10} cfu/g/day)	Std. Dev.	N
High Growth	0.122	0.30	2
Low Growth	-0.143	0.134	19

Table A5.23.9. Maximum Growth at Various Temperatures

Temperature (°C)	<5	5-7	>7
Maximum Growth (log_{10} cfu/g)	5	6.5	8